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1 A high-resolution diatom-based Middle and Late Holocene environmental history of the Little Belt
2 region, Baltic Sea

3 Jonathan Warnock, Elinor Andrén, Steve Juggins, Jonathan Lewis, David B. Ryves, Thomas Andrén
4 Kaarina Weckström,

5 The large-scale shifts in the salinity of the Baltic Sea over the Holocene are well understood and have
6 been comprehensively documented using sedimentary proxy records. More recent work has focused on
7 understanding how past salinity fluctuations have affected other ecological parameters (e.g. primary
8 productivity, nutrient content) of the Baltic basin, and salinity changes over key events and over short
9 timescales are still not well understood. The International Ocean Drilling Program Expedition 347 cored
10 the Baltic basin in order to collect basin-wide environmental records through a glacial-interglacial cycle.
11 Site M0059 is located in the Little Belt between the Baltic Sea and the Atlantic Ocean. A composite splice
12 section from Site M0059 was analysed at a decadal resolution to study changes in salinity, nutrient
13 conditions and other surface water column parameters based on changes in diatom assemblages and on
14 quantitative diatom-based salinity inferences. A mesotrophic slightly brackish assemblage is seen in the
15 lowermost analysed depths, corresponding to 7,800 – 7,500 cal. a BP. An increase in salinity and nutrient
16 content of the water column leads into a meso-eutrophic brackish phase. The observed salinity increase
17 is rapid, lasting from 7,500 to 7,150 cal. a BP. Subsequently, the Little Belt becomes oligotrophic and is
18 dominated by tychopelagic diatoms from ca. 7,100 to ca. 3,900 cal. a BP. This interval contains some of
19 the highest salinities observed followed by diatom assemblages similar to that of the Northern Atlantic
20 Ocean, composed primarily of cosmopolitan open ocean marine diatoms. A return to tychopelagic
21 productivity is seen from 3,850 to 980 cal. a BP. Anthropogenic eutrophication is detected in the last 300
22 years of the record which intensifies in the uppermost sediments. These results represent the first
23 decadal-resolved record in the region and provide new insight into the transition to a brackish basin
24 and subsequent ecological development.

Key words

IODP Expedition 347 Site M0059; palaeoecology; palaeoceanography; salinity; trophic state; diatoms; quantitative salinity reconstruction

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Introduction

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The Baltic Sea is an important resource for the nine nations sharing its coastline. Recently, the Baltic has experienced intense eutrophication, leading to harmful algal blooms (Karlson et al., 2017) and increased deep-water hypoxia (Gustafsson et al., 2012; Carstensen et al., 2014; Andersen et al., 2017; van Helmond et al., 2017), which have negative impacts on the ecology, recreational and economic utility of the sea. In order to fully understand recent eutrophication in the Baltic Sea, past nutrient regimes must be scrutinized. Furthermore, reconstructing past changes in Baltic nutrient conditions provides insight into the long-term drivers of Baltic Sea ecosystems. Many previous studies have focused on reconstructing the salinity history of the Baltic Sea during well-known alternating freshwater and brackish water stages, which are primarily driven by glacioisostatic rebound (full reviews of the Baltic Sea history can be found in; Andrén et al. 2000a; Björck, 2008; Andrén et al. 2011; Weckström et al. 2017). Briefly, deglaciation of the Baltic basin began c. 16,000 cal. a BP, initiating the freshwater Baltic Ice Lake stage (Björck 2008; Andrén et al., 2011). Continued ice retreat opened a connection over south central Sweden between the Baltic basin and the Atlantic, allowing for draining of the ice-dammed lake and influx of saline water from the North Atlantic. Consequently, the partly brackish Yoldia Sea stage began at c. 11,700 cal. a BP. Isostatic rebound caused a renewed separation of the Baltic basin and Atlantic leading to the dammed freshwater Ancylus Lake stage, c. 10,700 cal. a BP. The Baltic's connection to the Atlantic resumed at c. 9,800 cal. a BP, now in the southern part of the basin. This ultimately resulted in renewed influx of saline water to the Baltic, causing a transition to the brackish Littorina Sea stage, c. 8,000 cal. a BP (Andrén et al., 2000a; Berglund et al., 2005). The Littorina Sea stage is further subdivided, with the Post-Littorina Sea stage beginning at c. 3,000 cal. a BP and the Recent Baltic Sea state covering the last 1,000 years (Andrén et al., 2000a).

While the complex salinity history of the Baltic Sea has been qualitatively reconstructed throughout most of the basin, there remain discussions about where and when the first marine inflows occurred over the Danish Straits (Little Belt, Great Belt, Øresund), the transition areas which connect the

present Baltic Sea to the North Sea. Weakly brackish conditions in the southern Baltic Sea and in Swedish coastal waters have been recorded at 9,800 cal. a BP (Andrén et al., 2000a; Berglund et al., 2005) and are interpreted as minor sporadic inflows via the Great Belt, which at that time functioned as a calm fluvial environment (Björck 2008). In the Danish Straits no evidence for these early inflows are found. The oldest marine shells in the Great Belt are dated at 8,100 cal. a BP (Bennike et al., 2004). Øresund developed into a strait between 9,000-8,000 cal. a BP (Bennike et al., 2012) and in the Little Belt area brackish conditions were established by ca. 8,500 cal. a BP, although the oldest marine shell from the Little Belt dates to 7,700 cal. a BP (Bennike and Jensen 2011).

Diatoms, unicellular algae with opaline ($\text{SiO}_2 \cdot n\text{H}_2\text{O}$) cell walls, are an ideal source of proxy data for inferring ecological conditions in the Baltic Sea. Diatoms recovered from sediment cores have been used to reconstruct, for example, surface water salinity (Lewis et al., 2016), water depth (Warnock et al., 2017), micro- and macronutrient conditions (Cortese and Gersonde 2007; Weckström et al., 2007; Andrén et al., 2017;), sea ice conditions (Armand et al., 2017) and upper water column nutrient recycling (Warnock et al., 2015). Both studies evaluating the relationship between ecological and chemical parameters and diatom species' distributions (e.g. Snoeijs et al. 1993-1998; Clarke et al., 2006; Weckström et al., 2007; Andrén et al., 2017) and diatom-based palaeoecological investigations have been published within the Baltic Sea area and associated basins (e.g. Andrén et al., 2000a,b; Witak and Dunder 2007; Witkowski et al., 2009; Lewis et al., 2013; Lewis et al. 2016; Warnock et al., 2017).

In September 2013, the Integrated Ocean Drilling Program Expedition 347 cored a series of sites across the Baltic basin with the goal of generating correlated, basin-wide records of Baltic Sea history. Core site M0059 in the Little Belt region captured an extraordinarily high-resolution Holocene sediment record (Fig. 1). A multiproxy study from this site detailed changes in salinity, precipitation and temperature in the Little Belt region at centennial resolution (Kotthoff et al., 2017), and another inferred seasonal hypoxia during the past 8000 years (van Helmond et al., 2017). The present study provides a

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94 decadal-resolution diatom-based assessment of ecological conditions at Site M0059 covering the past
95 ~7,800 cal. a BP with the aim to examine the fresh-brackish water transition in detail and develop
96 greater understanding of trends in surface water salinity and primary production from the Littorina Sea
97 to the present day. The rate and timing of important events can be understood in detail by generating a
98 decadal-resolved data set. Our results will be discussed in the context of the overall development of
99 the Baltic Sea basin. Specific research questions which will be addressed are; when and how did the
100 transition into the brackish-marine stage (cf. Littorina Sea) occur, when did maximum salinity occur, how
101 did the Little Belt system change during the Holocene Thermal Maximum, Neoglacial cooling and the
102 Medieval Climate Anomaly, and when are the first traces of recent eutrophication recorded in the Little
103 Belt area?

105 **Material and Methods**

106 **Regional setting**

107 The Baltic Sea Area as defined by HELCOM (1993) includes the Baltic Sea and the shallow transition zone
108 to the North Sea, the Kattegat and the Belt Sea (including Great Belt and Little Belt), which is markedly
109 influenced by the brackish water outflow from the Baltic Sea. The Baltic Sea *sensu stricto* is confined by
110 the shallow sill between Sweden and Denmark, the Drogden sill (8 m water depth) and the sill between
111 Denmark and Germany, the Darss sill (18 m water depth) (Snoeijs-Leijonmalm and Andrén, 2017). These
112 sills mark the natural biological boundary of species distribution between the more marine-influenced
113 Belt Sea and the low-salinity brackish water of the Baltic Sea. At present, the Baltic Sea consists of a
114 mixture of marine North Sea water and freshwater runoff from the drainage area four times the size of
115 the sea surface area itself (Snoeijs-Leijonmalm and Andrén, 2017). This results in a spatially extensive
116 surface water salinity gradient (in g l⁻¹) ranging from ~12-30 in Kattegat, ~10-23 in Belt Sea, ~5-11 in the

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3 117 Baltic Sea proper, ~4-7 in the Bothnian Sea and ~2-4 in Bothnian Bay (Snoeijs-Leijonmalm and Andrén,
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5 118 2017).

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7 119 Five cores were obtained in the Little Belt from the geotechnical research vessel *Greatship*
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9 120 *Manisha* at site M0059 (55°0.29'N, 10°6.19'E), water depth 37.1 m, using an advanced piston corer as
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11 121 part of IODP Expedition 347 in September 2013 (Andrén et al., 2015a). The composite splice section,
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13 122 sampled for this study, was generated via the Correlator software package and a composite depth scale
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15 123 (meters composite depth; mcd) was established (Andrén et al., 2015a). Samples were collected and
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17 124 subsampled by the on-shore science party at Marum, University of Bremen, Germany in January and
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19 125 February 2014 with a sampling interval of ~20 cm.
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24 126 The lithology at site M0059 is divided into seven lithostratigraphic units. The lowermost Unit VII
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26 127 encountered Cretaceous limestone bedrock at 169 m composite depth (mcd below sea floor), Units VI–
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28 128 IV (169–83 mcd) consisted of diamicton interlayered with sand and silt indicative of a succession of
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30 129 repeated glaciations, followed by Unit III (83 to 53 mcd), interpreted as glaciolacustrine deglaciation
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32 130 sediment deposited as varved glacial clay of unknown age (Andrén et al., 2015a;b). Unit III is erosionally
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34 131 cut off by Unit II, a c. 2 cm upwards coarsening sandy-silty layer indicative of a rapid regression and sea-
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36 132 level low stand (Andrén et al., 2015b). The uppermost unit, Unit I, consists of c. 52 m of Holocene
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38 133 sediments and is divided into subunit Ib and Ia. Subunit Ib (53.57–49.37 mcd) consists of greenish gray
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40 134 well-sorted silty clay with prominent cm-scale laminae while subunit Ia (49.37–0 mcd) is mostly
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42 135 homogeneous black to greenish black well-sorted organic rich clay with faint millimeter-scale laminae
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44 136 showing minor bioturbation (Andrén et al., 2015a). Sub-units Ia and Ib are utilized for this study.
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51 138 Dating

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54 139 A robust radiocarbon-based age model was created using 16 fragmentary or intact bivalves which
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56 140 resulted in a mean sedimentation rate of 6.6 mmyr⁻¹ in Sub-unit Ia (van Helmond et al., 2017). The age
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model was generated with Clam version 2.2 (Blaauw 2010) with 2000 iterations and using the Marine13 calibration data set (Reimer et al., 2013). A deviation (ΔR) of -90 ± 53 years from the Marine13 reservoir age was used, based on the mean value for ΔR for suspension and deposit feeders in three study sites relatively close to Site M0059, as reported in the Marine Reservoir Correction Database (<http://calib.org/marine/>), Map-No 1692, 1693 (Lougheed et al., 2013) and Map-No 93 (Heier-Nielsen et al., 1995). The sediment surface is not assumed to be modern because of piston coring techniques. Due to lack of suitable material to date, the age model is linearly extrapolated below 48.64 mcd ($\sim 7,400$ cal. a BP) down to the lowermost analyzed sample at 53.12 mcd, which corresponds to an age of 7,800 cal. a BP.

Diatoms

Sediment preparation and slide creation followed Warnock & Scherer (2014). Sediment subsamples were freeze-dried prior to weighing, with ~ 0.05 g of sediment used per sample. Weighed samples were gently crushed, using only vertical motion in a mortar and pestle, to disaggregate the sediment and treated with a few mL each of 10% H_2O_2 to remove organics and 10% HCl to remove carbonates. The treated sediment slurry, a ~ 10 mL volume, was then settled through a water column in a beaker with a known cross section containing a coverslip. This technique allows for the calculation of absolute diatom abundance (ADA) in valves/gram dry weight of sediment ($v\ gdw^{-1}$). After the beaker was drained, coverslips were allowed to air dry and slides were permanently fixed with Naphrax (refractive index = 1.65). Diatoms were identified to the species level primarily following Snoeijs *et al.* (1993-1998), with additional identifications from Witkowski *et al.* (2000), Cleve-Euler (1951), Fryxell & Hasle (1972, 1980), Hasle (1978a, b), Hasle & Lange (1992), Hustedt (1930), Krammer & Lange-Bertalot (1988, 1991a, 199b), Muylaert & Sabbe (1996), Mölder & Tynni (1967-1973), Sabbe & Vyverman (1995), Snoeijs

(1992), and Tynni (1975, 1976, 1978, 1980). At least 300 valves were counted per sample at 1000x magnification using Nomarski differential interference contrast and oil immersion on an Olympus BX53 microscope. *Chaetoceros* resting spores (CRS) were also counted, but not included in the 300 valve count, as many spores are notoriously difficult to identify to species level and this genus covers a large range of ecological conditions. The salinity-based affinities of Snoeijs *et al.* (1993-1998) were used to categorize diatoms as freshwater (F), brackish-fresh (BF), brackish (B), brackish-marine (BM) and marine (M). Snoeijs *et al.* (1993-1998) did not use quantitative salinity measurements in defining these five categories, instead the categories are based on observations of present-day distributions of diatom species in the Baltic Sea. Three exceptions are *Stauroneis radissonii*, which is classified by Snoeijs *et al.* (1993-1998) as brackish-marine, *Pauliella taeniata*, which is classified as brackish and *Fragilariopsis cylindrus*, which is classified as brackish-fresh. Ecological studies reveal that these diatoms are associated with stratified water columns resultant from sea-ice melt and formation (Poulin & Cardinal 1982; Okolodkov 1993; Armand *et al.* 2005; Zheng *et al.* 2011; Mundy *et al.* 2011). As such, *S. radissonii*, *P. taeniata*, and *F. cylindrus* are placed into a sea-ice category and are not counted with the salinity groups.

The diatom record was subdivided into six local diatom abundance zones (DAZ) using CONISS sum of squares cluster analysis in the Tilia software package. Only diatom species with a 3 % relative abundance in at least one sample were used for cluster analysis. Analysis of variance (ANOVA) was used to evaluate the differences between the mean values for diatom salinity affinities, absolute diatom abundance (ADA), species richness, benthic to pelagic (B:P) ratio, and CRS absolute abundance between the six zones. A Tukey-Kramer pair-wise test was utilized to evaluate relationships between individual DAZ. For all statistical tests performed, an α value of 0.05 was used. All statistical relationships were evaluated using PAST v. 3.10 (Hammer *et al.*, 2001).

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Diatom preservation was assessed using a modification of the method of Ryves et al. (2009). In each sample, fifty valves of two common diatom species were classified into one of two preservation stages: pristine valves (showing no sign of dissolution) and valves with signs of dissolution. This included expansion of areolae, etching of the valve surface, and loss of the valve margins to dissolution. Ryves et al. (2009) utilized between two and four preservation stages, representing progressive dissolution of the valve face, to quantify diatom dissolution. A preservation index (F) was then calculated as a simple percent of valves showing no evidence of dissolution (Ryves et al. 2001). Two robust diatom species, *Paralia sulcata* and *Cocconeis scutellum*, were selected for this analysis because they were the only two species present in every sample analysed. *Cocconeis scutellum* is an obligate benthic diatom, whereas *Paralia sulcata* is facultatively pelagic (McQuoid and Nordberg, 2003). We argue that differences in dissolution behaviour between the taxa can be interpreted in terms of taphonomic conditions representative of their respective habitats, rather than intrinsic differences in robustness, as F values show no systematic differences until the more recent part of the record (see Results and Discussion).

Quantitative palaeo-salinity estimates were made using a weighted averaging partial least squares (WAPLS, ter Braak and Juggins, 1993) transfer function based on a modern pan-Baltic training set (210 sites) sampled during the Molten/Define projects (Andrén et al. 2007). The training set is described in more detail in Lewis et al. (2013, 2016 plus supplements) where it was applied to infer salinity changes at Danish coastal/marine sites. The prediction error of each WAPLS component was estimated by h-block cross-validation (Burman et al. 1994) in which samples closer than a cut-off distance (h) from a target sample were excluded from contributing to the prediction of that sample. h-block cross-validation (CV) was used to allow for spatial dependency in the calibration data, which can lead to underestimation of the prediction error because of pseudoreplication. The cut-off distance (h) was estimated by assessing the spatial structure of the residuals of the surface sample predictions. Specifically, h was estimated as 37km using the range of a circular variogram fitted to the detrended

residuals using the method described in Trachsel and Telford (2015). A randomization t-test applied to h-block prediction errors (van der Voet, 1994) indicated that only the first WAPLS component was significant (h-block cross-validation $r^2=0.85$, RMSEP=0.46 square-root salinity units).

Results

A total of 301 samples were counted at a resolution of ~20 cm (~30 years, on average with a standard deviation of 14; Fig. 2). Due to intense sampling of some intervals, a 20 cm resolution could not be used throughout the entire studied section. Table 1 provides ranges and averages for diatom environmental metrics, i.e. ADA, CRS abundance, the ratio of benthic to pelagic life forms (B:P) and species richness (R), as well as salinity affinities for each DAZ. A total of 210 diatom species and varieties, from within 83 genera, were identified within the core (species with >3% relative abundance are given in Table 2). Branching points in the CONISS tree were used to separate six adjacent diatom assemblage zones, DAZ 1 – DAZ 6. ANOVA revealed significant differences between each DAZ. Results of Tukey-Kramer pairwise tests of the differences between specific variables for adjacent DAZ are presented in Table 3.

DAZ 1 covers the period between ~ 7,800 to ~7,500 cal a BP and is dominated by diatoms from within the genera *Aulacoseira* (mean 38%), *Stephanodiscus* (mean 17%) and *Cyclotella* (mean 11%) (Fig. 3) that are predominantly freshwater-affiliated and planktic (Fig. 4). Based on the diatom assemblage and presence of CRS, the assemblage is not purely freshwater. Diatom preservation is poor (Fig. 6), with both species used to assess preservation having the lowest recorded average percent of undissolved valves (*Paralia sulcata* – 45%, *C. scutellum* – 37%).

DAZ 2 covers the timespan from ~7,500 to ~7,150 cal a BP. It is comprised of a mixed assemblage of all salinity preferences, dominated by brackish diatoms. Diatom salinity preferences shift rapidly through this interval, estimated at ~0.85 g L⁻¹/decade. Brackish taxa *Paralia sulcata* (mean 19%),

234 *Cyclotella choctawhatcheeana* (mean 6%), the brackish-marine *Thalassionema nitzschioides* (mean 8%)
235 and marine *Hyalodiscus scoticus* (mean 9%) are the most common diatoms in this zone. Statistically
236 significant changes compared to DAZ 1 were identified with respect to R, B:P, CRS and the percent of
237 freshwater, brackish, brackish-marine and marine species. Diatom preservation increases greatly in this
238 interval, with *Paralia sulcata* having an F value of 72% and *Cocconeis scutellum* having an F value of 77%.

239 DAZ 3 occurs between ~7,150 and ~5,500 cal a BP. DAZ 3 is similar to DAZ 2 in that *Paralia*
240 *sulcata* (mean 41%) and *Thalassionema nitzschioides* (mean 9%) dominate. It is distinguished by a
241 decline in the marine-affiliated diatom *Hyalodiscus scoticus* (mean 4%), while the other dominant
242 marine-affiliated taxa *Dimeregramma minor* (mean 8%) and *Shionodiscus oestrupii* (nominat variety,
243 mean 6%) display their highest abundances in the whole stratigraphy. The assemblage is primarily
244 composed of brackish and marine species. Richness (mean = 46.81) and B:P (mean = 0.50) decline
245 significantly with respect to DAZ 2, while ADA (mean = $6.02 \cdot 10^7$) significantly increases. In addition,
246 statistically significant decreases in freshwater and brackish-fresh diatoms as well as increases in
247 brackish and marine diatoms are detected relative to DAZ 2. Diatom preservation decreases in this
248 interval, with F values of 66% (*Paralia sulcata*) and 65% (*Cocconeis scutellum*).

249 DAZ 4 extends from ~5,500 to ~3,850 cal a BP. This assemblage is mainly brackish-affiliated. The
250 highest recorded average (48%) and absolute (72%) abundance of *Paralia sulcata* is found within DAZ 4.
251 There is a statistically significant decrease in ADA (mean = $4.16 \cdot 10^7$ v gdw⁻¹). A statistically significant
252 increase in the mean percent of brackish-affiliated diatoms and decrease in marine diatoms is also
253 detected between DAZ 3 and DAZ 4.

254 DAZ 5 covers the interval from ~3,850 to ~1000 cal a BP. *Skeletonema marinoi* (mean 5%) is
255 abundant relative to the rest of the core. *Thalassionema nitzschioides* (mean 14%) increases in
256 abundance in this interval as well. *Paralia sulcata* (17%), previously dominant in DAZ 3 and 4, declines in

257 abundance within the first half of DAZ 5, and remains at lower abundance, typically < 20%, throughout
258 the rest of the zone. The abundance of sea ice species, which during all the previous DAZ has been very
259 low (~ 1%), increases around 3,000 cal a BP to ~3-5% and staying at similar levels throughout the rest of
260 the core. Species richness (mean = 59.66), B:P (mean = 1.05) and CRS abundance (mean = $1.41 \cdot 10^7$ v
261 gdw^{-1}) reveal statistically significant increases relative to DAZ 4. Statistically significant increases in
262 freshwater, brackish-marine and marine diatoms are detected, while brackish diatoms significantly
263 decrease in abundance.

264 Finally, DAZ 6 spans from ~1000 cal a BP to the core top (i.e. present day). It is defined by a
265 return to abundant *Paralia sulcata* (mean 20%) and decline of *Skeletonema marinoi* (mean 0.1%). In
266 addition, *Cyclotella choctawhatcheeana* (mean 3%) and *Thalassiosira levanderi* (mean 1%) become more
267 abundant in this zone, especially within the upper meter of the core (last 200 years). Furthermore, a
268 distinct peak in *Thalassiosira proschkiniae* (mean 20%) is seen in the upper 0.4 m. The only statistically
269 significant change detected among the environmental metrics relative to DAZ 5 is a decrease in the
270 percent of marine diatoms.

271 Quantitative salinity inferences

272 In terms of salinity change, there is an overall agreement between the salinity reconstruction based on
273 Snoeijs et al. (1993-1998) diatom affinities and the DI-salinities (WAPLS), despite some concern over
274 WA-based optima of individual taxa and the accuracy of salinity categorisation based on their present-
275 day distribution in the Baltic Sea. Both records show a clear freshwater to weakly brackish phase before
276 ~7,500 cal. a BP prior to a sharp salinity increase at ~7,500 cal. a BP. In the DI-record, highest salinities
277 occur between ~7,000-3,900 cal. a BP, followed by a gradual decline after this date (over ~1000 years).
278 Lower, but relatively stable salinities are inferred between ~3000-1,000 cal. a BP, though over this phase
279 (i.e. DAZ 5), there is some disagreement with the qualitative interpretation based on the diatom

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affinities. The last 1,000 years is characterised by greater fluctuation in salinity before approximately 300 years ago, after which salinity begins to decline towards its present-day value. It is noteworthy that the reconstructed value for the core surface (present day) agrees very well with the average measured values in the Little Belt (15.9 ± 0.4 for a 10-year period (2004–2014; ICES, 2017), suggesting the diatom-based inference model for salinity used here is robust.

Discussion

In general, the salinity shifts identified here correspond well to those identified in Kotthoff et al. (2017). The most notable exception is the lowermost analyzed portion of the core, DAZ 1 (7,800 – 7,500 cal. a BP). This interval is interpreted as freshwater in Kotthoff et al. (2017) and van Helmond et al. (2017) but is interpreted as slightly brackish here based on diatom species analysis (Fig. 3, 4). It corresponds to the slightly brackish transitional stage of the Initial Littorina Sea (cf. Andrén et al., 2000a) and indicates that a freshwater phase similar to the Ancylus Lake stage was not captured in this record. The weakly brackish conditions are followed by a rapid increase in salinity in DAZ 2, which lasts approximately 340 years. High resolution sampling allows for the timing of this transition to be captured in greater detail than has been previously reported. DAZ 3 and DAZ 4 correspond to the brackish Littorina Sea stage within the Baltic basin, while DAZ 5 is associated with the post-Littorina stage in the Baltic Sea. DAZ 6 contains sediments representing the modern Little Belt, corresponding to the modern Baltic Sea stage within the Baltic Basin.

Initial Littorina Sea

Based on diatom assemblage composition, DAZ 1, (~7,800 to 7,500 cal. a BP), represents a mesotrophic, slightly brackish system. The two most dominant diatom taxa, *Aulacoseira islandica* and *Stephanodiscus neoastraea*, are typically found in large freshwater lakes, e.g. the Ancylus Lake (Andrén et al., 2000a;

McCabe and Cyr 2006). The presence of brackish-fresh and brackish diatoms (average DI-salinity inferred for DAZ-1 = 5 g L⁻¹; Fig. 3) indicate that this is not a true freshwater system which post-dates the Ancyclus Lake stage. Poor planktonic diatom preservation implies rapid recycling of nutrients within the water column in this lightly brackish environment (Fig. 6). However, the benthic diatom community is likely sourced from nearby littoral regions and transported to deeper water, which will cause increased dissolution of the benthic taxa. Based on ADA, diatom primary production is lower in DAZ 1 (and DAZ 2) compared to the rest of the diatom record, and largely restricted to the upper water column based on the low B:P ratio, as observed in other studies (e.g. Andrén et al., 2000a). However, the sedimentation rate is high compared to the other DAZ (van Helmond et al., 2017) which can significantly reduce ADA. Additionally, benthic diatom preservation, (assessed via *Cocconeis scutellum*) is worse than pelagic diatom preservation. This evidence, in addition to laminated sediments (Andrén et al., 2015b), indicates a strong halocline is present throughout this interval, with a freshwater pelagic lens overlying a more saline lower part of the water column.

van Helmond et al. (2017) describe this interval as a freshwater lake, corresponding to the Ancyclus Lake, with well oxygenated bottom water. Conversely, Bennike and Jensen (2011) report fully marine conditions in the Little Belt region at 8,000 cal. a BP. However, both of these hypotheses are contradicted by a brackish water benthic diatom community (and brackish water DI-inference; Fig. 7) observed here. Furthermore, the presence of laminated sediments and low rates of benthic primary productivity indicate poorly oxygenated bottom water conditions. The unconformity seen from 51.68 - 51.73 mcd (Andrén et al., 2015b), therefore, represents a sea-level low stand, with lack of deposition and likely erosion, separating a glacial lake from a slightly brackish, well stratified environment rather than a large freshwater lake system. The marine inflows required to create this halocline, as well as the stratification itself, must contribute to the widespread hypoxia seen in the Baltic basin at this time (Zillén et al., 2008). The long and narrow northern entrance into the Little Belt was probably too shallow to

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327 allow for any significant inflows of marine water at this time and it's therefore reasonable to assume

328 that marine water entered from south via Great Belt and the Kiel Bay.

329 Transition to a brackish system

330 DAZ 2, (~7,500 to 7,150 cal. a BP), records a jump in salinity that corresponds to a previously

331 identified transgression at the southeastern Swedish Baltic coast (e.g. Yu et al., 2007). Yu et al. (2007)

332 infer a c. 4.5 m rapid sea level rise at 7,600 cal. a BP. This sea level rise probably resulted in a flooding of

333 the northern threshold and opened this entrance into Little Belt for the first time since the deglaciation

334 of the area. Furthermore, this transgression is observed in Mecklenburg Bay from 7,700 to 7,500 cal. a

335 BP (Kostecki et al., 2015). Decadally-resolved diatom assemblages imply a $\sim 25 \text{ g L}^{-1}$ rise in salinity (Fig.

336 7) over ~350 years (~7,500 to ~7,150 cal. a BP). Changes in the diatom assemblages seen in the upper

337 samples of DAZ 1, continuing through DAZ2, also indicate an increase in nutrient concentrations.

338 Improved diatom preservation (i.e. less dissolution of valves) could imply higher (pelagic) production

339 and slower breakdown of valves (hence slower nutrient recycling), both of which would follow from an

340 increase in nutrient content of the water column. Diatom preservation remains good throughout the

341 remainder of the core, implying better conditions for preservation in the brackish system than the

342 fresher environment represented by DAZ 1. DAZ 2 is also the first zone with abundant CRS (Fig. 5).

343 Elevated abundances of *Chaetoceros* resting spores are typically used as indicators of high levels of

344 primary productivity, as they are formed at the termination of large seasonal blooms (Leventer et al.,

345 1996; Denis et al., 2009). However, they are also restricted to brackish/marine conditions (Snoeijs et al.,

346 1993-1998). As such, their increased abundance in DAZ 2 is not associated solely with increased primary

347 productivity, but increased salinity over the core site. Benthic primary productivity increases with

348 salinity, as shown by an increase in B:P. Furthermore, the benthic species which increase in abundance

349 are not freshwater associated. Therefore, this increase in B:P ratio is interpreted as a consequence of

350 increased salinity and an increase in suitable benthic habitats. Most of the benthic taxa increasing in DAZ

2 are epiphytes (e.g. *Cocconeis pediculus*, *C.scutellum*, *Epithemia turgida* var. *westermannii*), i.e. growing on submerged plants, or tychoplanktonic species (e.g. *Hyalodiscus scoticus* and *Melosira moniliformis*), which are often found as epiphytes leading to an interpretation that the flood resulted in large shallow habitat areas available for macrophyte growth. Changing basin morphometry with water level rise is key for explaining changes in habitat availability that drive diatom assemblage composition, as seen in some lake studies (e.g. Stone and Fritz 2004).

Littorina Sea stage

The most marine phase of the Littorina Sea stage begins in DAZ 3, (~7,150 to 5,500 cal. a BP), represented by a cosmopolitan marine diatom assemblage and salinities consistently around 25 g L⁻¹. At c. 7,100 cal. a BP, sea level was still rising; e.g. Yu et al. (2007) document sea level rise culminating at 6,500 cal. a BP. This interval, which occurs contemporary to the Holocene Thermal Maximum, contains the highest salinity found in our record, therefore, sea level rise and associated flooding of the Little Belt with Atlantic water drove salinity increase. Diatom assemblage data implies a return to oligotrophic conditions and an increase in hydrodynamic regime, also likely driven by the influence of Atlantic water at the core site. This increased mixing of the upper water column likely leads to the observed decrease in diatom preservation and associated increase in nutrient recycling rates as has been observed in other Holocene records (Warnock and Scherer, 2016).

During DAZ 4, (~5,500 to 3,850 cal. a BP), which is ecologically similar to DAZ 3, we infer a slight decrease in primary productivity compared to the average ADA in DAZ 3 (there is no concurrent change in sedimentation rates, van Helmond et al., 2017). Taken together with further declines in abundance of eutrophic diatoms seen in earlier DAZ, this implies a decrease in nutrient concentrations. Brackish diatoms increase clearly in DAZ 4, though the DI-salinity suggests little change until after ~3,900 cal. a BP (Fig. 3, 4). In Snoeys *et al.* (1993-1998) the brackish category consists of diatoms occurring everywhere in

the Baltic, with no marked changes along the extensive salinity gradient, hence their increase does not necessarily translate into a freshening of the water column. Despite the increase in brackish-tolerant diatoms, DAZ 4, like DAZ 3, is still dominated by cosmopolitan marine diatoms *Paralia sulcata*, *Thalassionema nitzschioides* and *Shionodiscus oestrupii*. A high wave energy water column is potentially even more significant in the Little Belt at this time.

While the diol-index used in Kotthoff *et al.* (2017) (Fig. 7G) shows an overall agreement with the DI-salinity, there is a clear deviation during this zone (beginning already in DAZ 3), as the diol-index suggests lower salinities compared to the diatom-based quantitative inference. As the source organisms behind the diol index are still uncertain, and as this index is not yet an established salinity proxy (Rampen *et al.* 2012, 2014), it is difficult to assess what causes the inferred difference in these proxy records. Given the uncertainties associated with the diol index, the diatom-inferred salinity presented here likely provides a more reliable record of changes in the Baltic system relative to that of Kotthoff *et al.* (2017).

The tychopelagic-dominated system seen in DAZ 3 and 4 is replaced with calmer water and higher benthic and pelagic primary production in DAZ 5, (~3,850 to 1000 cal. a BP). *Paralia sulcata* declines rapidly in abundance, as has been recorded previously in the Bornholm Basin (Andrén *et al.*, 2000a). It is replaced by increases in *Thalassionema nitzschioides* and *Skeletonema marinoi*. *Skeletonema marinoi* has been described as part of an open sea planktonic diatom assemblage in Baltic Sea cores previously (Witak, 2013). The increase in abundance of *Thalassionema nitzschioides*, a cosmopolitan marine diatom, also indicates increased influence of North Sea waters on the Little Belt region. Furthermore, CRS peaks frequently during this timeframe. *Chaetoceros* is also a common open ocean planktonic genus. Furthermore, all of these diatoms are known to increase in populations with increased nutrients.

The DI-salinity suggests a decline in salinity after ~3,900 cal. a BP and lower, relatively stable conditions up until ~1,000 years BP. This decline is likely driven by an increase in freshwater input as suggested by the pollen-inferred annual precipitation reconstruction at the study site and the $\delta^{18}\text{O}$ -record of lacustrine carbonates from Lake Igelsjön in southern Sweden (Gustafsson and Westman, 2002; Seppä et al., 2005; Kotthoff et al., 2017; Fig. 7). However, it is possible that both an increased input of marine water from the North Sea is occurring simultaneously with increased freshwater input due to wetter conditions (Seppä et al. 2005; Kotthoff et al. 2017; Fig. 7).

In addition, a number of benthic diatom species increase in abundance within DAZ 5, possibly in response to the inferred decrease in wave action or an increase in nutrient input due to rainier conditions. Benthic diatoms from within the genera *Fragilaria*, *Staurosirella* and *Pseudostaurosira* fill the available benthic niches. These diatoms have been identified as opportunistic colonizers in shallow Baltic coastal areas previously (Witkowski et al., 2009). A transition to calmer water and increased benthic primary production is further evidenced by the significant increase in the B:P ratio and species richness between zones 4 and 5. Both B:P and richness are high throughout DAZ 5, 3,850 to 980 cal. a BP. Interestingly, pelagic and benthic diatom preservation diverge in DAZ 5, which given their similarity prior to ~4,000 cal. a BP, suggests distinct differences in the taphonomy of benthic and pelagic habitats at this time. After DAZ 5, pelagic preservation increases slightly, whereas benthic preservation declines. As well as differences in nutrient utilization and recycling, this might reflect greater littoral turbulence relative to calmer open water conditions found at the cores site. As discussed earlier, transport of benthic species from the littoral zone also contributes to dissolution of benthic diatoms.

Finally, DAZ 5 marks the beginning of an increased relative abundance of sea ice diatoms (Fig 6), implying a longer ice cover duration, which is consistent with the onset of Neoglacial cooling after the Holocene Thermal Maximum, and is seen as colder and wetter conditions in several proxy records (Fig. 3, 6)

The lower portion of the DAZ 6, 5.7 mcd to 2.1 mcd (c. 980 to c. 300 cal. a BP), shows a return to tychopelagic productivity seen in DAZ 3 and 4, implying increased wave action and mixing. This period corresponds to the brackish Recent Baltic Sea stage in the Baltic Basin (e.g. Andrén et al. 2000a). The quantitative DI-salinity suggests a continuation of brackish-marine conditions, punctuated by occasional higher salinity events, particularly associated with high *Paralia sulcata* abundance.

Medieval Climate Anomaly

Contrary to some proxy-based studies from the western Baltic Sea, the Medieval Climate Anomaly (MCA ca. 1000-700 cal a BP; Mann et al., 2009) does not clearly stand out as a period of increased primary production in our data. Andrén et al. (2000a) identified a high primary productivity event in the Bornholm basin during the MCA, while others have associated it with increased organic carbon burial, warmer temperatures and reducing conditions in the Belt Sea (Kotthoff et al., 2017; van Helmond et al., 2017). While we do observe a sharp spike in CRS abundance at c. 950 cal. a BP implying a high primary productivity event, such events were also relatively frequent during DAZ 5.

Instead, our diatom data shows some signs of freshening before, during and after the MCA, indicated by the moderate increase of freshwater species such as *Staurosirella pinnata* and *S. lapponica*. This is in line with modelling studies from the Baltic Sea region (e.g. Schimanke et al., 2012), which suggest increased precipitation and runoff in the Baltic Sea region during the time. Southern Scandinavian proxy-based precipitation records vary over this timeframe, with pollen-inferred precipitation from core M0059 indicating a decrease, whereas $\delta^{18}\text{O}$ values from Lake Igelsjön in southern Sweden indicate increased precipitation, agreeing with modelling results and our reconstruction (Fig. 7).

Anthropogenic influence

Upcore of this assemblage, 2.1 mcd to the coretop (c. 300 cal. a BP to present), eutrophy-related diatoms increase in abundance. *Cyclotella atomus*, *C. choctawhatcheeana*, *Thalassiosira proschkiniae* and *T. levanderi* become more abundant in this zone and have all been associated with anthropogenic disturbance in the Baltic (Andrén et al., 1999; Weckström 2006). Furthermore, a similar assemblage has been identified by Andrén et al. (2000b) in the Gotland region and was associated with anthropogenic eutrophication. In addition, an increase in cereal pollen is seen after 800 cal. a BP (Kotthoff et al., 2017), representing the large-scale development of agriculture across the region. Therefore, we interpret this assemblage to reflect substantial anthropogenic input of nutrients to the Little Belt region, primarily from land use changes (e.g. conversion of land for agriculture). Nitrogen load to the Baltic Sea has increased by four times since the turn of the 20th century and phosphorus has increased by eight times (Elmgren 1989), with the majority of input increasing since 1950 (Rosenberg et al., 1990; Clarke et al., 2003; Clarke et al., 2006; Gustafsson et al., 2012). These conditions favour small centric diatoms, such as seen here. The DI-salinity suggests that salinity declines over the last 300 years, though due to intense nutrient changes and other human impact, isolating a salinity signal is difficult in the uppermost part of the record. However, the true sediment water interface was not likely captured, hampering the assessment of the modern diatom assemblages..

Conclusions

The Little Belt region has experienced salinity shifts similar to those previously observed in the Baltic Sea. While the studied record does not include a freshwater phase, corresponding to the Ancylus Lake stage in the Baltic proper, due to a hiatus in sedimentation, a slightly brackish interval corresponding to the Initial Littorina Sea phase is detected, from 7,800 to 7,500 cal. a BP. An elevated nutrient content is also detected through this interval, which continues during the rapid salinity increase

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466 from 7,500 to 7,150 cal. a BP, after which brackish conditions prevail. The maximum observed salinity,
467 35 g L⁻¹, occurs within the tychoipelagic phase, from 7,100 to ca. 3,900 cal. a BP, during the Holocene
468 Climate Optimum, after which, with the onset of Neoglacial cooling a calmer hydrodynamic regime and
469 higher primary production prevail The diatom assemblages indicate a return to tychoipelagic productivity
470 from 1000 cal. a BP to the coretop, corresponding to the Modern Baltic Sea phase within the Baltic basin
471 proper. This interval contains the Medieval Climate Anomaly, which does not clearly stand out in our
472 data set. The last ~300 years reveal anthropogenic eutrophication of the Little Belt region.

473
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735 The data that support the findings of this study are available from the corresponding author
736 upon reasonable request.

Figure Captions

Figure 1: Map of the study region in the Little Belt in between the Baltic Sea and Kattegat. A: Map of the Baltic Sea. B: Belt Sea region. The red dot represents the location of the drill site M0059 (55°0.29'N, 10°6.19'E). Geographical locations of names used in the text; 1. Mecklenburg Bay, 2. Darss sill, 3. Drogden sill, 4. Vedbæk, 5. Anholt. Bathymetric data from EMODnet 2018.

Figure 2: Sedimentation rates. Approximations of the sampling resolution, presented as the number of years per 20 cm of core, are provided.

Figure 3: Diatom relative abundance (%) for core M0059 Units 1a and 1b. Relative abundances are presented as a percent of the assemblage within each interval. Species that occurred with > 5% total abundance in at least one sample are included. Diatom species are sorted by salinity preference following Snoeijs et al. (1993-1998). DAZ are given on the right, separated by horizontal lines.

Figure 4: Diatom-based salinity reconstruction for core M0059 Units 1a and 1b. Diatoms were identified to the species or variety level and subsequently assigned to one of five salinity preferences (Snoeijs et al., 1993-1998) or a sea ice preference. At least 300 individuals were identified in each sample. The “Unknown” grouping consists of diatoms viewed in girdle view which could not be identified to the species level. DAZ are given on the right, separated by horizontal lines. Depth is plotted as meters composite depth and ages given are in cal. a BP. Abbreviations are as follows: F – freshwater; BF – brackish-fresh; B – brackish, BM – brackish-marine; M – marine; SI – sea ice; Un – unknown. Diatom-inferred salinity in g L⁻¹ includes the p = 0.95 confidence interval.

Figure 5: Diatom ecological metrics for core M0059 Units 1a and 1b. Absolute diatom abundance (ADA) and *Chaetoceros* resting spore (crs) abundance are presented in valves/gram dry weight of sediment *10⁶. Species richness (R) and the ratio of benthic to pelagic diatoms (B:P) are also presented. DAZ are given on the left, separated by horizontal lines.

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Figure 6: Diatom preservation indices within core M0059 Units 1a and 1b. Diatom preservation (as valve dissolution) was quantitatively assessed using two species, *Cocconeis scutellum* and *Paralia sulcata* (see Methods). Higher values (%) represent better diatom preservation.

Figure 7: Comparison of the core M0059 data presented here with other site data (from Kotthoff et al., 2017) and regional parameters. A. Mean pollen-inferred annual temperature from M0059 (Kotthoff et al., 2017) and Lake Trehörningen, SE Sweden (Antonsson and Seppä, 2007). B. Mean January and July temperature from Denmark (Brown et al., 2012). HTM = Holocene Thermal Maximum, MCA = Medieval Climate Anomaly. C. Mean coldest and warmest month temperatures inferred from pollen and D. summer surface water temperatures reconstructed from LDI and TEX 86 (L) biomarkers from site M0059 (Kotthoff et al., 2017). E. Proxies for precipitation/wetness including pollen-inferred precipitation from M0059 and oxygen isotope analysis ($\delta^{18}\text{O}$) of lacustrine carbonates from Lake Igelsjön (Seppä et al., 2005). F. Sea-level change from three nearby sites; Vedbæk, Sealand, Denmark (Øresund; Christensen, 2001), Anholt in the Central Kattegat (Clemmensen et al., 2012) and Blekinge, SE Sweden (Berglund et al., 2005). G-H. Salinity proxies for M0059. G. diatom-inferred salinity presented here and Diol index from Kotthoff et al. (2017). H. Diatom salinity affinities based on the Baltic Marine Biologists classification system (Snøeijis et al., 1993-1998). DAZ = Diatom assemblage zone.

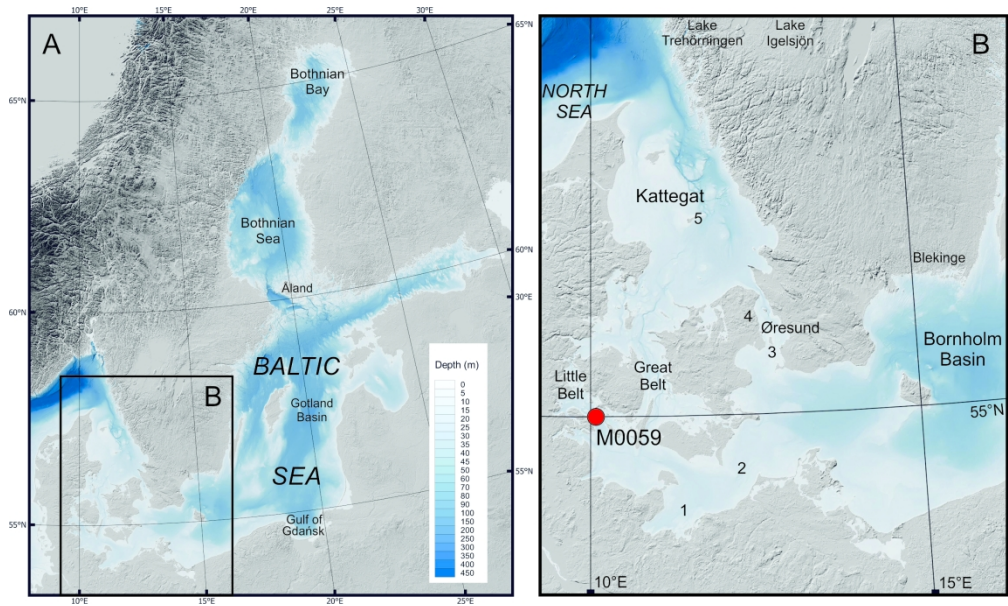
Table Captions

Table 1: This table provides the means (A) and ranges (B) of all computed diatom ecological metrics. Abbreviations are as follows: ADA – absolute diatom abundance; CRS – *Chaetoceros* resting spore absolute abundance; v gdw⁻¹ – valves per gram dry weight; R – richness; B:P – Benthic to pelagic ratio; F – freshwater; BF – brackish-fresh; B – brackish, BM – brackish-marine; M – marine; SI – sea ice.

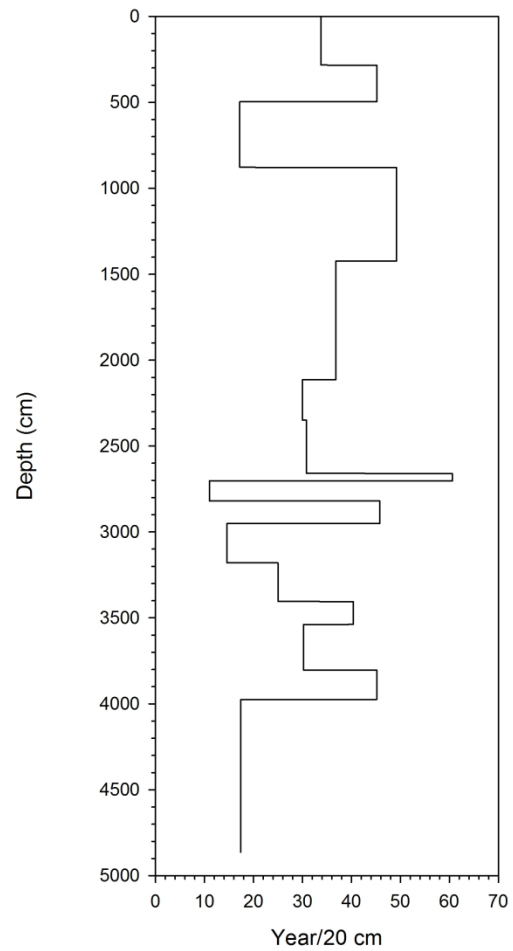
784 Table 2: Relative abundances of diatom species. The relative abundances (%) for all species which have
785 an abundance of at least 3% in at least one sample are provided. Abbreviations follow table 1. In
786 addition, P – pelagic and B – benthic in the Lifeform column.

787 Table 3: This table provides the results of Tukey-Kramer pairwise statistical tests. “+” represents a
788 statistically significant change ($p \leq 0.05$) comparing adjacent diatom abundance zones, whereas “-”
789 represents no significant change. Abbreviations follow Table 1.

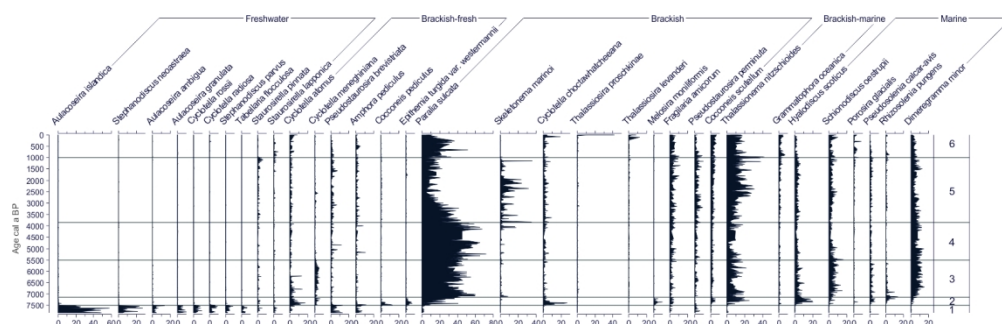
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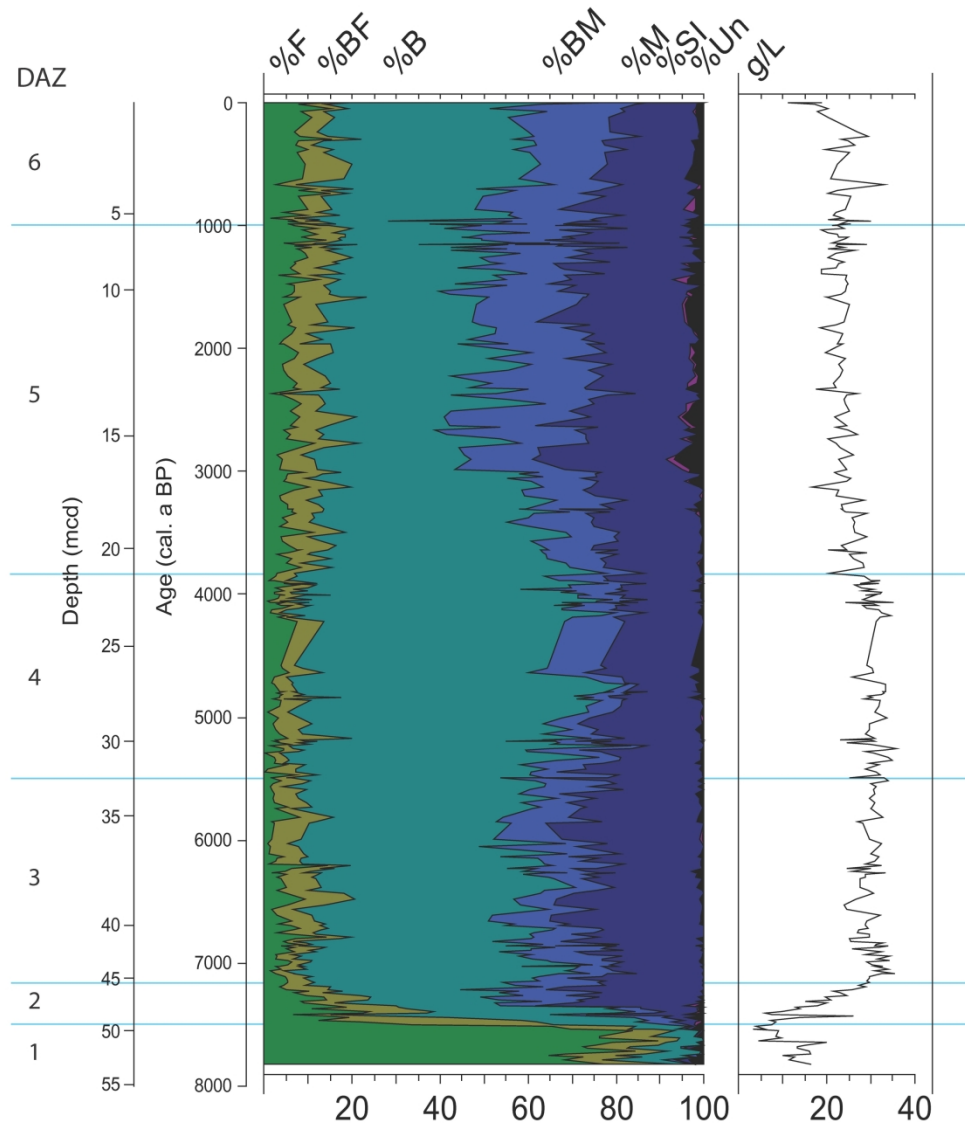


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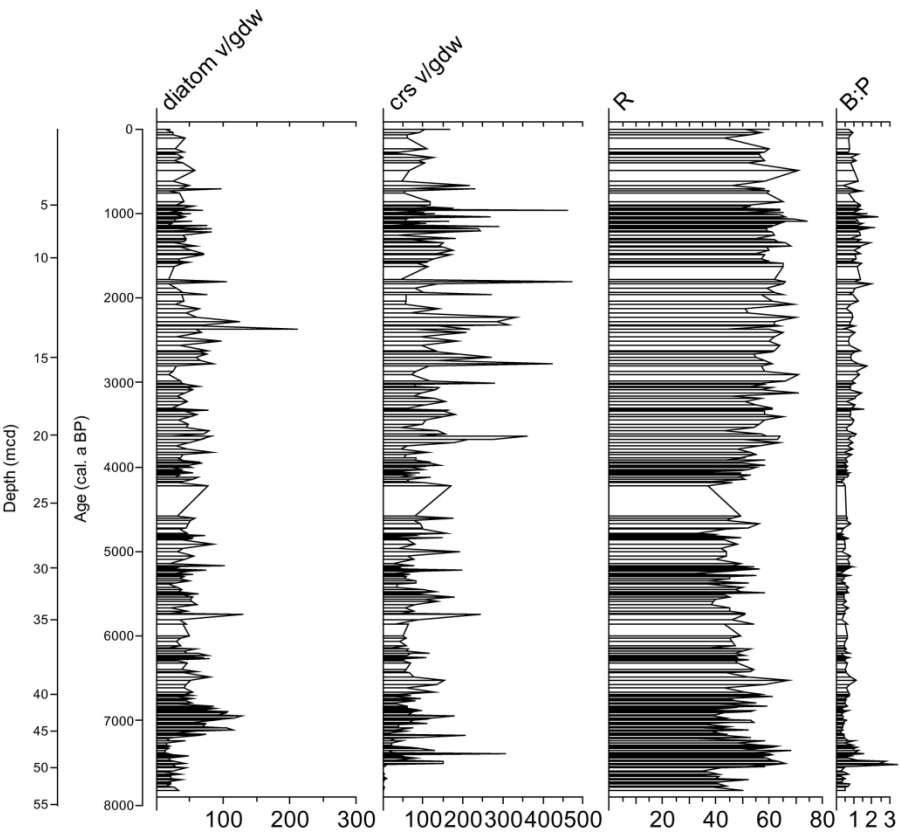
M0059 sedimentationrates

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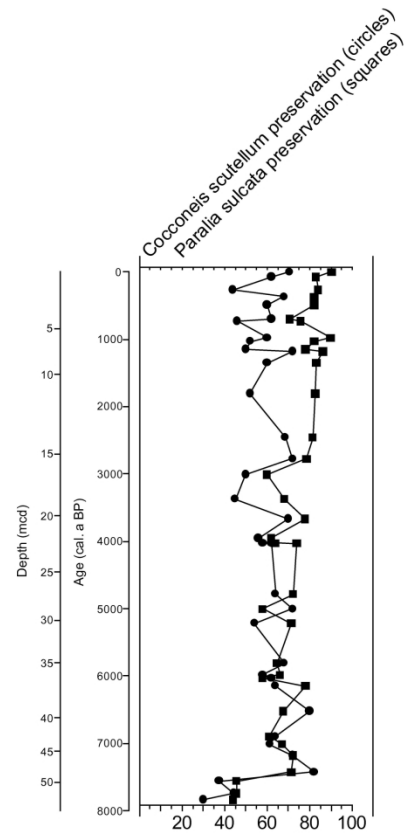




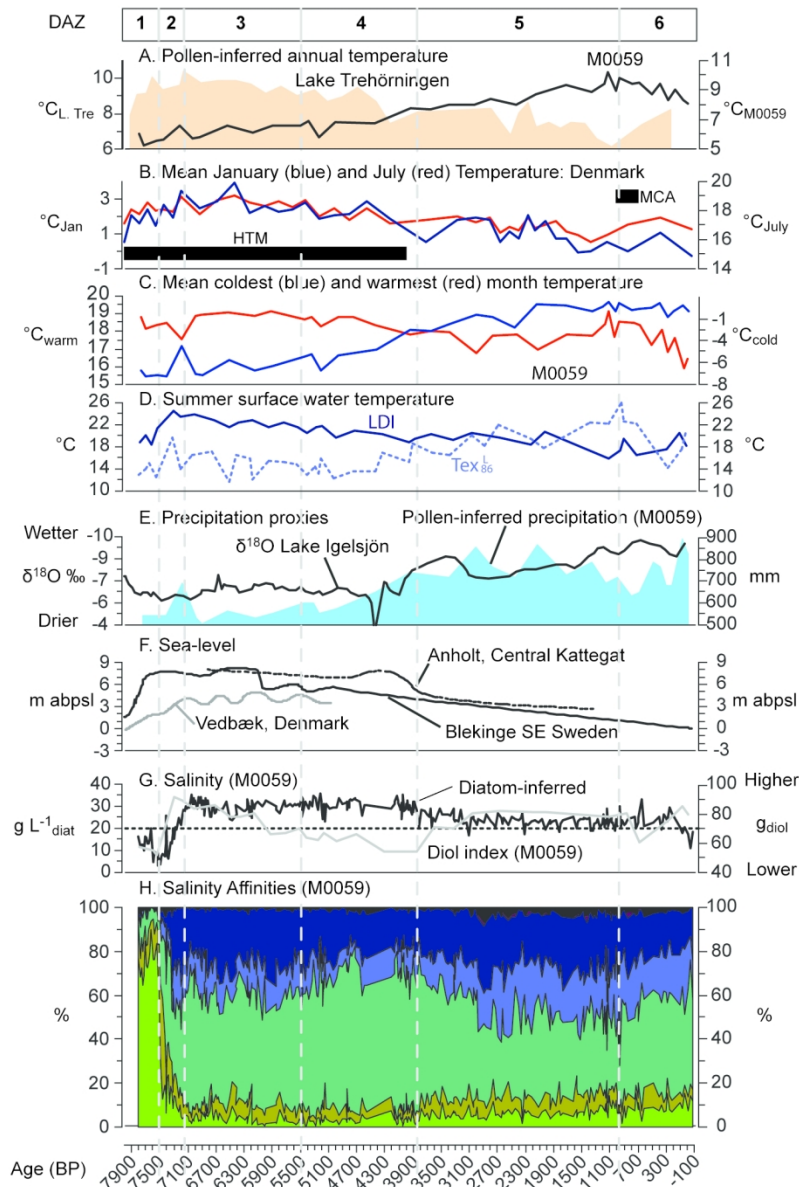
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Zone	Richness	B:P	crs v/gdw	ADA v/gdw	%F	%BF	%B	%BM
6	55.97	0.90	1.08E+07	3.58E+07	8.7	5.9	41.9	20.7
5	59.66	1.05	1.41E+07	5.01E+07	6.6	7.3	39.8	19.3
4	46.37	0.54	7.68E+06	4.16E+07	3.3	4.9	61.4	9.8
3	46.81	0.50	7.31E+06	6.02E+07	4.3	6.1	50.9	13.0
2	55.13	1.00	7.20E+06	2.71E+07	12.8	14.8	39.1	12.7
1	43.76	0.46	2.22E+05	2.52E+07	74.7	12.8	9.5	0.8

means

For Review Only

%M	%SI	Richness	B:P	crs v/gdw	ADA v/gdw	%F	%BF	%B
20.6	0.2	41-71	0.37-1.43	2.26E+06-47	4.7E+06-9	1.33-15.23	2.13-10.86	19.02-58.64
24.3	0.5	43-74	0.32-2.35	1.74E+06-41	7.2E+07-2	1.81-14.21	1.81-15.28	19.90-70.81
19.7	0.1	31-58	0.23-0.95	4.97E+05-12	7.1E+06-1	0.33-7.48	1.45-14.67	45.47-77.74
25.0	0.1	34-67	0.27-1.10	0-2.43E+07	1.86E+07-1	0.66-14.48	2.00-13.08	36.09-67.22
19.5	0.4	33-68	0.41-3.47	1.20E+06-31	2.21E+07-7	3.67-33.50	4.83-46.09	22.80-52.08
0.9	0.1	30-62	0.20-0.73	0-1.02E+06	1.22E+07-4	64.74-89.61	4.16-19.01	3.93-15.49

ranges

For Review Only

%BM	%M	%SI
10.78-47.54	12.94-28.15	0.00-2.65
7.72-41.53	13.27-40.60	0.00-3.31
2.48-21.96	11.00-32.95	0.00-1.97
4.19-24.17	14.74-36.57	0.00-0.66
4.39-26.79	1.63-36.83	0.00-2.64
0.00-3.13	0.00-3.00	0.00-1.33

For Review Only

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Zone	Richness	B:P	crs v/gdw	ADA v/gdw	%F	%BF
6	55.97	0.90	1.08E+07	3.58E+07	8.7	5.9
5	59.66	1.05	1.41E+07	5.01E+07	6.6	7.3
4	46.37	0.54	7.68E+06	4.16E+07	3.3	4.9
3	46.81	0.50	7.31E+06	6.02E+07	4.3	6.1
2	55.13	1.00	7.20E+06	2.71E+07	12.8	14.8
1	43.76	0.46	2.22E+05	2.52E+07	74.7	12.8
Zone	Richness	B:P	crs v/gdw	ADA v/gdw	%F	%BF
6	41 - 71	0.37 - 1.43	2.26E+06 - 4.61E+07	7.47E+06 -9.71E+07	1.33 - 15.23	2.13 - 10.86
5	43 - 74	0.32 - 2.35	1.74E+06 - 4.71E+07	1.72E+07 - 2.11E+08	1.81 - 14.21	1.81 - 15.28
4	31 - 58	0.23 - 0.95	4.97E+05 - 1.97E+07	2.71E+06 - 1.02E+08	0.33 - 7.48	1.45 - 14.67
3	34 - 67	0.27 - 1.10	0 - 2.43E+07	1.86E+07 - 1.30E+08	0.66 - 14.48	2.00 - 13.08
2	33 - 68	0.41 - 3.47	1.20E+06 - 3.05E+07	1.21E+07 - 7.36E+07	3.67 - 33.50	4.83 - 46.09
1	30 - 62	0.20 - 0.73	0 - 1.02E+06	1.22E+07 - 4.49E+07	64.74 - 89.68	4.16 - 19.01

For Review Only

%B	%BM	%M	%SI
41.9	20.7	20.6	0.2
39.8	19.3	24.3	0.5
61.4	9.8	19.7	0.1
50.9	13.0	25.0	0.1
39.1	12.7	19.5	0.4
9.5	0.8	0.9	0.1
%B	%BM	%M	%SI
19.02 - 58.64	10.78 - 47.54	12.94 - 28.19	0.00 - 2.65
19.90 - 70.81	7.72 - 41.53	13.27 - 40.60	0.00 - 3.31
45.47 - 77.74	2.48 - 21.96	11.00 - 32.95	0.00 - 1.97
36.09 - 67.22	4.19 - 24.17	14.74 - 36.57	0.00 - 0.66
22.80 - 52.08	4.39 - 26.79	1.63 - 36.83	0.00 - 2.64
3.93 - 15.49	0.00 - 3.13	0.00 - 3.00	0.00 - 1.33

ranges

For Review Only

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2	Depth (mcd)			0.02	0.2	0.4	0.62
3	Age (cal. a BP)	Salinity	Lifeform	-60	-29	5	42
4	<i>Achnanthes subatomoides</i>	F	B	0.67	1.33	0.00	1.66
5	<i>Cocconeis disculus</i>	F	B	2.00	1.49	0.33	3.15
6	<i>Martyana martyii</i>	F	B	1.66	2.32	1.33	2.32
7	<i>Staurosirella lapponica</i>	F	B	0.17	0.00	0.50	0.00
8	<i>Staurosirella pinnata</i>	F	B	0.00	0.00	0.00	0.00
9	<i>Tabelaria flocculosa</i>	F	B	0.00	0.00	0.00	0.00
10	<i>Amphora pediculus</i>	BF	B	0.67	1.66	0.00	1.00
11	<i>Cocconeis pediculus</i>	BF	B	0.00	0.00	0.00	0.00
12	<i>Ctenophora pulchella</i>	BF	B	0.00	0.00	0.00	0.00
13	<i>Diploneis smithii</i>	BF	B	2.00	1.49	1.67	0.33
14	<i>Epithemia turgida</i> var. <i>westermanni</i>	BF	B	0.00	0.00	0.00	0.00
15	<i>Navicula cincta</i>	BF	B	0.67	0.00	0.67	0.00
16	<i>Nitzschia frustulum</i>	BF	B	0.00	0.00	0.00	0.00
17	<i>Planothidium delicatum</i>	BF	B	0.00	0.00	0.00	0.00
18	<i>Psuedostaurosira brevistriata</i>	BF	B	0.67	0.00	0.67	0.00
19	<i>Achnanthes lemmermannii</i>	B	B	0.67	1.33	1.67	1.66
20	<i>Cocconeis neothumensis</i>	B	B	0.33	0.00	0.67	0.00
21	<i>Cocconeis scutellum</i>	B	B	1.50	2.82	6.17	5.64
22	<i>Fragilaria amicornum</i>	B	B	2.33	0.00	2.00	6.30
23	<i>Fragilaria gedanensis</i>	B	B	0.00	0.00	0.00	0.00
24	<i>Opephora mutabilis</i>	B	B	1.66	0.00	0.33	0.33
25	<i>Placoneis gastrum</i>	B	B	0.00	0.00	0.00	0.00
26	<i>Psuedostaurosira perminuta</i>	B	B	0.67	0.00	2.33	0.00
27	<i>Rhoicosphenia curvata</i>	B	B	0.00	0.00	2.33	0.00
28	<i>Grammatophora macilenta</i>	BM	B	1.66	0.83	0.67	1.99
29	<i>Grammatophora oceanica</i>	BM	B	2.66	4.48	3.67	4.81
30	<i>Navicula perminuta</i>	BM	B	0.00	0.00	0.00	0.00
31	<i>Rhopalodia acuminata</i>	BM	B	0.17	0.33	0.67	1.99
32	<i>Dimeregramma minor</i>	M	B	1.50	1.00	1.50	3.32
33	<i>Hyalodiscus scoticus</i>	M	B	0.00	0.00	0.00	0.00
34	<i>Nitzschia grossestriata</i>	M	B	0.00	0.00	0.00	0.00
35	<i>Opephora marina</i>	M	B	0.33	0.00	0.33	0.66
36	<i>Opephora minuta</i>	M	B	1.00	1.00	0.00	0.66
37	<i>Plagiogramma staurophorum</i>	M	B	0.67	0.00	0.17	0.33
38	<i>Tryblionella debilis</i>	M	B	0.00	0.00	0.00	0.00
39	<i>Aulacoseira ambigua</i>	F	P	0.00	0.00	0.00	0.00
40	<i>Aulacoseira granulata</i>	F	P	0.33	0.00	0.00	0.00
41	<i>Auloacoseira islandica</i>	F	P	0.00	0.00	0.00	0.00
42	<i>Cyclotella atomus</i>	F	P	3.00	7.96	2.00	5.31
43	<i>Cyclotella ocellata</i>	F	P	0.00	0.00	0.00	0.00
44	<i>Cyclotella radiosa</i>	F	P	0.00	0.00	0.33	0.33
45	<i>Cyclotella rossii</i>	F	P	0.00	0.00	0.00	0.00
46	<i>Stephanodiscus minutulus</i>	F	P	0.00	0.00	0.00	0.00
47	<i>Stephanodiscus neoastraea</i>	F	P	0.00	0.00	0.00	0.00
48	<i>Stephanodiscus parvus</i>	F	P	0.00	0.00	0.00	0.00
49	<i>Cyclotella menegheniana</i>	BF	P	0.00	0.00	0.33	0.00
50	<i>Cyclotella choctawhatcheeana</i>	B	P	4.33	0.66	3.67	4.64
51	<i>Melosira moniliformis</i>	B	P	0.33	0.00	0.00	0.33

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2	<i>Paralia sulcata</i>	B	P	11.65	5.31	8.67	10.61
3	<i>Skeletonema marinoi</i>	B	P	0.00	0.00	0.00	0.00
4	<i>Thalassiosira levanderi</i>	B	P	7.99	2.99	4.33	0.33
5	<i>Thalassiosira proschkiniae</i>	B	P	3.99	41.46	12.00	0.00
6	<i>Thalassionema nitzschioides</i>	BM	P	12.65	3.65	15.50	17.58
7	<i>Porosira glacialis</i>	M	P	3.33	1.66	3.00	2.32
8	<i>Proboscia alata</i>	M	P	0.33	0.00	0.00	0.00
9	<i>Pseudosolenia calcar-avis</i>	M	P	0.33	0.00	0.00	0.00
10	<i>Rhizosolenia pungens</i>	M	P	1.33	0.33	0.00	1.66
11	<i>Thalassiosira cf. angulata</i>	M	P	0.67	1.33	0.00	0.00
12	<i>Thalassiosira eccentrica</i>	M	P	3.99	0.00	0.00	0.66
13	<i>Shionodiscus oestrupii</i>	M	P	7.65	6.30	7.33	3.32
14	<i>Stauroneis radissonii</i>	SI	P	0.00	0.00	0.00	0.33
15	<i>Melosira varians</i>	SI	P	0.00	0.00	0.00	0.00
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For Review Only

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2	17.24	10.23	31.67	36.33	21.52	28.29	33.61	16.00	30.67
3	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00
4	0.33	12.21	0.00	0.33	0.00	0.00	0.00	0.00	0.33
5	0.00	0.99	0.00	0.00	0.00	0.00	0.33	1.00	0.67
6	6.02	16.83	13.17	17.33	19.37	8.82	8.40	16.50	9.50
7	0.65	0.66	0.33	0.00	8.61	0.33	0.33	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.33	1.33	0.00
9	0.00	0.00	0.00	0.00	0.99	0.00	0.33	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.99	1.33	0.00
11	0.33	0.00	4.00	0.67	0.33	1.33	2.31	0.33	4.67
12	0.65	1.32	0.00	0.00	0.00	0.00	0.33	0.00	0.00
13	2.93	9.90	3.33	1.00	2.65	1.33	1.98	1.00	3.33
14	0.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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2	3.18	3.75	3.95	4.11	4.15	4.26	4.38	4.81	4.96
3	493	622	667	703	712	737	764	862	895
4	0.66	1.65	0.33	1.97	0.00	2.00	0.00	1.00	1.63
5	1.48	0.66	0.66	1.64	0.00	0.50	1.83	0.83	0.65
6	0.66	1.98	0.00	4.61	1.61	0.00	1.00	0.66	0.33
7	0.49	0.50	0.00	0.00	0.00	4.50	0.00	3.32	0.00
8	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	4.93	1.98	0.00	0.66	0.32	0.00	0.67	0.33	2.29
12	0.16	0.50	0.00	0.00	0.00	0.00	0.00	0.33	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.82	0.33	0.33	1.64	1.61	1.33	0.50	0.33	0.49
16	0.16	0.66	0.00	0.00	0.00	0.17	0.17	0.66	0.00
17	0.99	0.66	0.00	1.64	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.99	1.32	1.99	0.00	2.42	1.83	0.33	2.65	3.92
22	1.32	2.97	0.00	1.97	1.61	0.67	1.00	0.66	1.63
23	0.49	1.65	0.33	0.00	0.65	1.00	0.00	0.00	0.65
24	2.47	4.29	1.66	2.47	2.42	3.50	4.17	1.99	3.10
25	4.61	5.28	1.99	1.64	5.48	4.67	3.67	0.33	6.21
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	1.81	0.33	0.33	0.00	1.29	2.00	0.50	0.66	4.58
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.99	1.98	1.00	0.00	2.58	5.00	4.33	2.32	2.29
30	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.16
31	0.00	1.65	0.00	0.00	1.29	1.00	0.67	0.50	0.82
32	0.66	2.31	1.00	4.93	1.61	3.00	2.33	6.97	6.70
33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	1.15	1.49	1.00	2.80	2.26	1.17	1.50	1.49	0.98
35	3.29	3.14	7.14	2.96	3.55	5.00	3.33	5.80	3.27
36	1.97	0.00	0.00	0.00	2.58	2.00	0.00	3.65	2.29
37	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	0.66	2.97	0.33	0.00	0.16	1.83	0.33	1.00	1.96
39	0.99	4.13	1.33	0.99	0.00	0.67	0.67	0.66	2.12
40	0.49	2.15	1.16	3.45	1.94	2.67	0.00	0.66	1.31
41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.33	0.00
44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	2.63	1.98	0.66	0.00	4.84	4.33	2.67	0.00	0.98
46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	2.63	1.98	0.66	0.00	4.84	4.33	2.67	0.00	0.98
51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	0.00	0.00	0.00	0.66	0.00	0.00	0.00	0.00	0.00
53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	2.96	0.99	0.00	0.33	1.61	1.00	0.33	2.32	1.31
	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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2	25.00	19.47	51.50	14.80	26.13	13.33	20.00	21.89	20.26
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.66	0.66	0.00	0.33	0.00	0.33	0.67	0.00	0.33
5	0.33	0.33	0.00	1.64	0.00	0.00	0.33	0.00	0.65
6									
7	11.18	9.57	10.47	18.09	12.10	9.67	21.33	8.29	7.35
8	0.00	3.63	2.99	2.96	0.65	1.33	2.67	0.00	0.00
9	0.00	0.00	0.00	0.00	0.97	0.00	1.00	0.00	0.98
10	0.99	0.33	1.33	0.33	0.97	2.67	1.67	1.00	0.98
11	0.33	0.00	0.00	0.33	0.32	0.67	0.33	3.65	1.63
12	0.33	2.64	0.00	0.00	4.84	0.00	0.00	0.66	0.00
13									
14	0.00	0.00	0.33	0.33	0.32	0.67	2.00	1.33	1.63
15	3.62	0.66	1.33	5.26	2.26	1.33	4.67	3.32	3.92
16	0.00	0.00	0.33	0.66	0.00	0.00	0.00	0.00	0.00
17	0.99	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
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For Review Only

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2	5.16	5.38	5.61	5.77	5.78	5.96	5.97	5.98	6.17
3	914	933	953	966	967	983	983	984	1000
4	0.99	0.00	1.98	0.33	0.00	3.00	0.00	1.00	1.32
5	0.99	0.00	0.33	0.66	0.33	1.00	0.50	0.00	0.99
6	0.66	0.00	0.99	1.97	0.00	0.67	0.00	0.33	1.32
7	2.98	0.00	0.17	0.49	0.65	2.00	0.33	0.00	0.00
8	0.00	0.00	0.00	1.31	1.30	0.00	0.33	0.33	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	1.00	0.00	0.00	0.65	2.00	1.66	0.33	0.66
12	0.00	0.00	0.66	0.00	0.00	0.00	0.00	0.00	0.33
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	1.16	1.16	0.17	1.15	1.95	1.33	1.33	0.83	0.99
15	0.00	0.33	0.17	0.00	0.00	0.17	0.00	0.17	0.00
16	0.00	1.33	0.66	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.65	0.00	0.00	0.33	0.00
19	1.99	0.17	3.31	0.98	2.28	0.00	0.50	1.67	2.31
20	1.99	3.32	0.66	1.31	0.00	1.00	0.00	0.33	0.99
21	0.33	1.16	0.33	0.00	0.33	0.67	0.00	0.67	0.33
22	4.14	4.48	1.16	0.66	4.23	5.67	1.83	2.17	2.48
23	2.65	10.28	9.59	0.98	4.89	7.00	5.66	6.33	4.63
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.66	1.00	1.49	0.33	2.28	0.00	0.33	0.67	3.14
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	7.95	0.33	7.27	0.00	2.61	0.00	2.66	4.67	6.28
28	0.00	0.66	0.33	0.66	0.16	0.00	0.83	0.00	0.00
29	0.66	1.00	1.49	0.33	0.00	0.00	0.00	0.00	0.00
30	5.30	2.32	0.83	1.97	2.12	1.00	2.83	1.17	3.97
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	3.81	1.66	2.31	2.13	1.79	0.00	1.00	1.67	0.99
33	2.98	6.63	6.78	3.61	6.19	3.17	4.49	5.33	5.95
34	1.66	2.65	0.66	2.30	3.26	0.00	2.00	2.33	3.97
35	0.33	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.00
36	0.33	0.83	2.81	0.00	0.65	1.67	0.67	1.00	2.15
37	0.66	0.00	0.66	0.66	0.98	3.00	3.16	1.67	1.16
38	1.16	0.50	0.33	0.33	0.33	0.33	0.17	1.67	1.65
39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	1.99	0.00	0.33	0.33	0.65	0.00	0.33	1.67	0.66
46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	1.99	0.00	0.33	0.33	0.65	0.00	0.33	1.67	0.66
51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00
53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
59	1.66	1.00	1.32	0.00	0.65	5.00	0.67	1.67	4.30
60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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2	15.89	27.53	7.60	12.79	21.82	14.67	32.95	9.00	12.56
3	0.00	0.00	0.00	0.00	2.28	0.00	0.00	0.33	0.00
4	0.99	0.00	0.00	0.00	0.33	0.00	0.67	0.67	0.00
5	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6									
7	14.07	9.78	22.98	41.48	8.63	12.33	5.82	36.00	10.08
8	0.00	0.00	0.00	0.66	1.95	2.67	0.67	0.00	4.63
9	0.00	0.00	0.66	0.66	0.00	0.00	0.00	0.00	0.66
10	0.33	0.33	1.98	1.64	0.98	1.33	2.00	0.33	1.65
11	0.00	0.66	1.32	0.33	0.65	1.00	0.33	1.00	1.98
12	0.33	0.00	0.33	0.98	1.30	0.00	1.66	0.00	0.33
13									
14	1.32	0.66	0.00	0.33	0.33	4.00	0.67	0.33	0.66
15	4.64	6.30	1.98	6.56	1.95	6.33	2.33	1.33	1.65
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00
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For Review Only

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2	6.19	6.39	6.59	6.79	6.99	7.19	7.21	7.39	7.59
3	1002	1019	1036	1054	1071	1088	1090	1105	1122
4	1.33	2.66	0.65	1.99	1.66	1.33	2.31	0.33	0.33
5	1.00	0.66	0.00	0.17	1.33	0.33	0.99	0.33	1.00
6	0.00	0.33	0.65	0.00	0.33	0.00	0.00	0.33	0.00
7	0.00	1.33	1.14	0.66	0.33	0.67	0.99	0.83	2.51
8	1.67	4.32	2.28	0.00	5.66	2.00	0.00	3.33	5.35
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	1.67	1.33	2.28	1.66	1.00	0.00	1.32	0.33	0.00
11	0.00	0.33	0.00	0.33	0.00	0.00	0.00	0.33	0.33
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	1.00	0.50	1.14	1.00	0.50	1.17	0.50	0.83	0.00
14	0.00	0.17	0.16	0.00	0.17	0.33	0.99	0.33	0.33
15	0.00	1.00	3.92	0.66	0.33	0.00	0.00	0.00	0.00
16	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	1.50	0.66	0.00	0.00	0.33	1.33	1.65	0.67	0.33
18	2.00	1.83	1.31	0.66	1.83	2.33	2.31	2.33	1.00
19	0.00	0.00	0.65	0.33	0.33	0.00	0.00	0.00	0.33
20	0.33	0.00	0.98	0.33	0.00	0.00	0.33	0.17	0.00
21	4.50	3.49	3.26	3.82	1.66	2.33	3.80	5.83	3.34
22	6.67	1.00	8.81	9.30	5.99	4.00	3.31	0.33	4.35
23	0.00	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00
24	4.33	0.66	3.43	0.00	1.00	1.00	0.66	3.00	1.34
25	0.00	0.00	0.00	0.33	0.00	0.33	0.33	0.00	0.00
26	3.67	2.99	2.28	4.32	2.33	2.00	1.98	1.33	2.68
27	0.00	0.83	0.00	0.00	0.00	0.00	0.00	0.83	0.67
28	0.17	0.00	0.16	0.17	1.16	0.17	0.83	0.00	0.00
29	0.00	1.00	2.61	2.49	1.50	2.50	2.31	0.50	0.84
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	2.83	1.33	0.98	0.50	1.33	1.00	1.65	1.17	1.51
32	4.83	1.66	4.73	2.99	4.33	5.33	5.29	2.00	9.03
33	4.67	1.99	4.24	2.33	2.00	3.67	2.64	2.67	2.01
34	0.00	0.00	0.16	0.00	0.50	0.00	0.33	0.00	0.17
35	1.17	1.00	2.28	0.66	0.33	0.00	0.50	1.83	1.67
36	3.67	0.66	0.98	0.00	2.66	1.33	4.63	0.67	1.51
37	1.83	0.00	2.28	2.66	0.67	1.50	0.50	0.67	2.68
38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	0.33	0.66	0.98	3.32	0.33	1.00	0.99	2.00	0.00
46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00
54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58	0.33	0.33	0.00	0.00	0.00	0.67	0.00	1.00	0.00
59	0.67	1.99	0.33	1.33	0.67	2.00	1.65	2.67	1.67
60	0.00	0.00	0.00	1.00	0.33	0.00	0.00	0.00	0.00

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2	10.33	6.64	4.89	20.27	13.64	12.67	11.57	14.67	13.38
3	0.33	0.33	0.00	0.33	1.33	0.00	1.98	0.00	1.00
4	0.33	0.00	0.00	0.33	2.00	0.00	0.00	0.00	0.33
5	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.33
6									
7	16.50	37.38	12.40	10.47	16.31	15.33	16.53	18.00	10.70
8	0.00	0.33	0.33	0.00	0.00	1.33	0.00	0.67	1.67
9	0.00	0.33	0.33	0.00	0.67	0.00	0.00	0.33	0.00
10	1.33	1.99	3.59	1.33	0.67	2.00	0.33	3.00	2.68
11	0.67	0.00	2.28	0.66	1.33	0.67	0.00	3.00	0.67
12	0.33	0.33	0.33	2.33	0.67	1.00	0.00	0.00	0.00
13									
14	0.00	0.33	0.00	1.66	0.33	2.00	0.00	0.33	1.67
15	2.00	1.99	2.28	2.66	6.66	1.67	5.29	9.00	2.68
16	1.00	0.66	0.00	0.00	0.00	0.33	2.98	0.67	0.00
17	1.33	0.66	0.00	0.00	0.67	1.00	2.31	0.00	0.33
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For Review Only

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2	7.79	7.81	7.94	7.98	8.12	8.19	8.33	8.52	8.71
3	1139	1141	1152	1156	1168	1174	1186	1203	1218
4	1.00	0.33	0.33	2.29	1.00	2.30	1.00	0.67	1.98
5	1.16	0.00	1.83	1.15	0.67	0.00	1.17	0.33	1.16
6	0.00	0.00	0.00	0.33	0.00	0.33	0.67	0.00	0.00
7	0.00	0.00	0.00	1.31	1.00	0.33	0.00	2.83	0.00
8	1.00	0.66	1.00	4.26	1.00	2.96	1.33	0.67	1.98
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	1.00	1.31	0.67	1.64	2.00	0.00	1.33	1.33	1.32
11	0.66	0.66	0.00	0.33	0.00	0.66	0.17	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.66	0.49	0.50	1.47	0.50	0.82	1.50	2.17	0.33
14	0.33	0.00	0.17	0.00	0.00	0.00	0.00	0.17	0.00
15	0.00	0.00	0.67	0.00	0.00	0.00	2.50	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.66	1.31	0.33	1.96	0.50	0.49	0.00	0.00	0.99
18	3.99	1.64	0.00	1.31	2.67	0.00	2.67	1.17	3.47
19	0.66	0.00	0.00	0.00	0.00	0.66	0.83	0.00	0.33
20	0.33	0.00	0.33	0.65	0.00	0.33	0.00	0.33	0.66
21	3.32	2.13	4.33	2.78	4.33	4.43	1.33	3.83	3.47
22	5.98	1.97	2.33	3.93	2.33	2.96	9.00	0.67	3.97
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	1.99	0.66	1.00	3.11	4.33	1.48	2.83	1.00	2.15
25	0.33	0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	4.65	1.64	1.00	5.07	9.67	1.31	2.67	3.83	3.14
27	0.17	0.33	0.00	0.00	1.00	0.00	1.33	0.00	0.66
28	1.66	0.66	0.00	0.00	0.67	0.00	0.33	0.00	0.00
29	2.33	1.15	3.00	1.15	0.33	1.15	0.33	3.00	0.99
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.83	0.66	0.50	1.15	3.00	0.00	1.50	2.00	2.48
32	4.82	1.97	9.32	4.91	8.50	1.97	7.00	6.33	3.80
33	3.32	2.30	4.66	1.96	3.00	1.97	2.67	4.00	3.64
34	0.00	0.66	0.17	0.00	0.00	0.00	0.00	0.00	0.00
35	0.33	0.00	0.00	1.31	2.17	0.00	0.50	1.67	0.66
36	1.66	2.63	3.00	4.91	4.00	1.31	2.83	1.67	2.64
37	1.83	0.00	2.00	0.65	1.17	0.00	1.83	1.00	0.83
38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	1.00	2.63	0.67	0.33	0.00	1.31	0.00	1.33	1.65
50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00
54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
59	2.33	0.99	0.00	0.98	0.33	7.88	2.00	0.00	2.98
60	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00

1									
2	16.61	7.22	12.65	15.06	9.33	3.61	11.33	14.00	18.51
3	2.99	35.47	0.33	0.65	1.33	3.94	2.33	1.00	1.32
4	0.33	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00
5	0.33	0.33	0.00	0.33	0.00	0.00	0.00	0.00	0.00
6									
7	13.62	9.03	16.47	8.84	9.67	37.93	14.33	21.00	10.08
8	1.00	0.00	0.67	1.64	0.00	0.33	0.33	0.67	1.32
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	2.66	2.30	3.33	0.33	2.00	1.97	2.00	0.67	0.99
11	1.00	0.66	1.00	0.65	0.00	0.66	0.33	0.33	0.33
12									
13	0.33	0.33	0.00	1.96	0.67	0.00	0.00	0.33	0.00
14	0.33	0.00	0.00	0.98	0.67	0.00	0.33	0.67	0.66
15	1.33	2.30	4.66	8.18	5.00	4.93	3.33	4.00	3.31
16	0.00	0.16	1.00	0.33	0.33	0.00	0.00	0.00	0.00
17	1.00	0.33	0.33	0.33	0.33	0.66	0.33	1.67	0.33
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For Review Only

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2	11.59	15.41	18.94	7.99	9.00	8.62	19.64	20.20	14.00
3	1.99	3.85	1.33	3.33	4.33	5.64	3.93	2.32	1.33
4	0.00	0.64	0.33	0.67	0.33	0.00	0.33	0.00	0.00
5	0.33	0.00	0.00	0.33	0.00	0.66	0.00	0.00	0.00
6									
7	14.57	19.58	6.15	17.80	9.83	14.43	7.53	10.43	14.00
8	0.99	0.32	0.66	1.33	1.33	0.66	1.31	0.00	0.67
9	0.00	0.00	0.33	0.33	0.00	0.00	0.00	0.00	0.33
10	1.66	1.93	1.00	0.33	1.00	1.00	1.31	1.66	3.33
11	0.33	0.00	0.00	0.00	0.67	0.00	0.00	0.00	0.33
12									
13	1.99	0.64	0.33	1.00	1.00	0.33	0.00	0.00	2.67
14	0.99	0.00	0.00	0.67	0.33	0.66	0.65	0.00	0.00
15	3.64	5.46	5.65	4.66	1.33	1.33	2.62	3.31	2.33
16	0.00	0.00	1.33	0.00	0.00	0.00	0.00	3.31	0.00
17	0.00	0.00	1.33	0.00	0.33	0.33	0.98	1.99	0.00
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For Review Only

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2	9.85	10.05	10.15	10.21	10.245	10.45	11.05	11.15	11.25
3	1486	1535	1560	1575	1585	1634	1782	1806	1831
4	0.33	0.33	0.33	0.66	1.66	1.33	0.33	1.66	2.33
5	2.30	1.00	0.83	0.00	0.33	0.33	0.66	0.33	0.33
6	0.00	0.33	0.00	0.66	0.00	0.67	0.00	0.33	0.00
7	0.00	0.00	0.83	0.00	1.99	0.00	0.00	0.33	0.00
8	1.64	0.00	0.00	0.66	1.00	0.33	0.66	0.67	1.66
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.66	1.33	0.33	2.30	3.65	1.67	0.33	1.66	1.33
11	0.00	0.00	0.50	0.66	0.33	0.00	0.33	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.16	1.00	0.99	0.66	0.83	1.00	0.99	0.33	1.00
14	0.33	0.33	0.00	0.00	0.17	0.00	1.32	0.00	0.17
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.33	0.00
16	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.67
17	0.00	0.00	0.66	0.66	1.33	0.33	0.99	0.00	2.00
18	4.60	2.00	2.98	7.55	6.64	1.33	1.81	0.67	3.99
19	0.00	0.00	0.00	0.66	0.00	0.00	0.00	0.33	0.00
20	0.00	1.00	0.00	0.00	0.66	0.67	1.98	0.33	0.00
21	2.30	4.16	5.12	3.12	3.32	4.67	1.48	2.50	2.16
22	5.58	0.67	2.98	4.93	2.66	4.67	2.31	10.32	8.99
23	0.00	0.00	0.33	0.16	0.00	0.00	0.00	0.00	0.00
24	0.66	2.00	1.49	2.30	1.00	2.67	3.62	1.50	3.33
25	0.66	0.00	0.00	0.00	0.33	1.67	0.33	0.00	0.00
26	2.63	5.99	1.98	1.64	0.66	1.33	2.31	4.83	3.33
27	0.33	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.16	0.00	0.00	0.33	0.33	0.00	0.00	0.00	0.33
29	1.97	0.33	0.99	0.49	0.66	2.33	1.32	0.50	0.83
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	1.48	1.66	0.83	0.99	2.49	1.33	2.80	1.16	2.66
32	12.48	9.65	2.98	4.11	2.49	6.50	5.93	4.33	7.32
33	1.64	4.33	1.65	2.96	3.65	2.00	6.59	1.00	3.00
34	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.33	0.00
35	1.31	0.67	0.99	0.66	0.83	0.33	1.81	0.67	1.33
36	0.99	1.33	0.00	2.63	2.49	1.83	1.32	1.66	3.99
37	0.99	1.66	0.66	0.99	1.16	1.50	1.32	1.00	0.00
38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00
43	0.33	1.66	2.31	0.66	0.66	0.67	1.98	0.67	1.00
44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00
50	0.33	1.66	2.31	0.66	0.66	0.67	1.98	0.67	1.00
51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58	0.00	0.67	0.00	0.00	0.33	0.00	0.00	0.00	0.67
59	2.30	0.00	1.65	3.94	2.66	0.33	0.99	1.66	2.00
60	0.00	0.00	0.33	0.33	0.00	0.00	0.00	0.00	0.00

1									
2	11.45	11.65	11.77	11.8	12.06	12.26	12.46	12.66	12.86
3	1880	1930	1959	1966	2031	2080	2129	2178	2228
4	1.33	1.00	0.67	0.00	2.31	1.99	1.32	0.67	0.33
5	0.17	0.33	0.33	0.00	0.66	0.17	0.00	0.17	0.50
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	1.33	0.67	0.33	1.00	0.00	0.33	0.00	1.67	0.67
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.33	3.00	1.65	1.33	0.00	1.33	0.33
12	0.33	0.83	0.17	1.00	0.16	0.33	0.99	0.50	1.16
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.33	1.00	1.67	1.00	1.65	0.33	0.82	0.33	0.83
15	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.67	0.00	0.00	0.00	0.67	0.00
17	0.00	0.67	0.00	0.00	0.00	0.66	0.00	0.00	1.00
18	0.67	1.33	0.33	2.50	1.65	1.66	0.66	1.67	2.33
19	1.16	1.33	0.67	0.33	0.66	0.33	0.00	0.67	1.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.67	0.00	0.33	0.00	0.00	0.66	0.00	0.33	0.33
22	2.00	4.17	3.33	3.33	2.97	3.32	3.13	3.17	2.00
23	4.66	8.33	4.33	1.00	5.27	2.65	1.97	2.67	3.66
24	0.00	0.00	0.00	0.17	0.16	0.00	0.33	0.00	0.67
25	2.16	0.67	2.17	2.00	4.61	2.32	2.14	3.00	1.00
26	0.33	0.00	0.00	0.67	0.33	0.00	0.33	0.00	0.67
27	4.99	0.33	1.00	3.00	4.94	2.32	2.30	4.33	4.33
28	0.67	0.00	0.50	0.00	0.16	0.00	0.00	0.67	0.17
29	0.00	0.33	0.67	0.00	0.16	0.00	0.00	0.00	0.00
30	1.66	1.83	1.17	3.00	1.65	0.17	0.00	0.67	0.33
31	1.66	0.67	0.00	0.33	0.99	0.00	0.00	0.33	3.49
32	2.00	1.50	0.67	1.17	1.48	0.50	0.99	1.83	1.00
33	5.99	3.33	3.67	4.33	2.80	5.64	2.80	5.33	2.50
34	4.33	5.33	2.33	3.00	2.97	1.33	4.28	4.67	2.00
35	0.00	0.00	0.33	0.00	0.00	0.33	0.33	0.00	0.00
36	0.67	1.83	2.00	1.33	0.99	1.16	0.99	2.50	2.33
37	2.50	2.00	1.67	0.67	1.48	1.33	3.29	1.67	2.33
38	0.33	0.67	0.17	0.67	0.33	0.50	0.66	1.17	0.67
39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00

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2	9.27	4.00	6.94	5.59	5.32	17.00	21.00	4.99	5.64
3	10.93	14.67	12.89	31.58	8.99	8.00	16.33	6.66	2.99
4	0.00	0.00	0.00	0.33	0.00	0.00	0.33	0.00	0.00
5	0.66	0.00	0.66	0.33	0.67	0.00	0.67	0.33	0.00
6									
7	19.87	20.83	8.10	28.95	30.28	12.67	5.67	23.29	27.53
8	0.33	0.67	1.32	0.00	0.00	0.33	0.00	0.00	0.66
9	0.00	0.33	0.99	0.00	0.00	0.00	0.00	1.66	0.00
10	1.66	1.67	0.66	0.66	0.33	2.00	1.67	0.33	1.66
11	0.00	0.33	0.00	0.00	0.00	0.33	0.00	0.33	0.66
12									
13	0.99	0.67	0.00	0.33	0.67	0.33	1.00	0.00	0.33
14	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
15	3.31	4.67	3.97	2.30	7.32	2.00	2.67	9.32	3.65
16	1.32	0.00	0.33	0.00	0.00	0.00	1.00	0.67	1.00
17	0.66	1.67	0.66	0.66	0.33	0.33	0.33	0.67	3.32
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1	16.49	16.64	16.68	16.84	16.91	17.04	17.26	17.44	17.64
2	2981	3009	3016	3046	3058	3082	3123	3156	3193
3	0.00	0.32	2.97	0.65	1.31	0.33	2.99	0.00	0.00
4	0.67	0.65	0.00	0.00	0.98	0.16	0.00	0.33	0.00
5	0.00	0.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.65	0.00	0.00	0.65	0.00	0.33	0.00	0.00
7	0.00	2.27	0.66	0.00	0.00	0.00	1.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.67	1.46	0.66	0.65	0.98	0.00	2.33	3.65	0.00
10	0.00	0.00	0.83	0.00	0.98	0.00	0.66	0.00	0.67
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.67	0.16	0.17	0.65	0.00	0.33	0.50	0.50	0.33
13	0.17	0.00	0.17	0.16	0.00	0.00	0.00	0.00	0.00
14	0.00	1.30	0.00	0.65	0.00	0.00	0.00	0.00	0.00
15	0.17	0.00	0.00	0.00	0.65	0.00	0.00	0.00	0.00
16	0.67	0.00	0.66	1.30	0.65	1.31	2.16	0.33	3.00
17	3.67	4.06	1.98	0.81	0.33	6.86	1.33	1.00	3.00
18	0.00	2.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.33	0.33	0.00	0.67
20	2.17	3.90	2.31	2.11	3.27	1.47	3.32	2.16	3.16
21	3.33	5.19	7.26	4.55	2.62	4.58	5.32	7.96	1.66
22	0.00	0.00	0.00	0.00	0.00	0.49	0.00	1.00	0.17
23	1.00	1.30	2.64	0.32	2.13	0.98	2.33	2.99	2.83
24	0.67	0.00	0.00	0.00	0.49	0.00	0.33	0.00	0.33
25	2.00	1.62	2.97	3.90	2.62	2.29	6.64	2.99	8.99
26	0.17	0.00	0.00	0.00	0.00	0.16	0.17	0.00	0.00
27	2.00	0.65	0.66	0.32	0.65	0.00	0.33	0.33	1.33
28	1.33	0.49	0.99	0.49	0.65	0.65	1.33	0.83	2.50
29	0.00	0.00	0.66	0.32	0.00	0.00	1.00	0.00	0.00
30	1.17	1.46	1.49	1.62	1.47	0.65	1.00	2.82	1.16
31	6.00	3.57	4.13	5.84	5.89	5.72	5.48	9.29	4.33
32	0.67	2.27	3.63	3.57	1.96	2.29	2.66	4.31	3.00
33	0.00	0.00	0.00	0.00	0.16	0.00	0.66	0.00	0.00
34	1.33	1.30	0.50	0.81	0.49	0.98	0.33	1.16	1.66
35	1.33	1.30	2.31	1.30	5.56	0.65	4.32	1.99	2.66
36	1.33	1.62	0.83	0.65	0.00	0.00	0.33	1.00	1.33
37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00
44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00
48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	1.00	1.62	0.33	3.57	0.65	0.33	1.99	2.99	1.33
51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00
55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00
58	1.00	0.00	0.99	0.32	0.65	0.00	0.33	0.00	1.00
59	1.33	3.57	0.33	2.27	5.56	1.96	1.33	1.99	1.66
60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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2	16.00	24.03	15.51	21.43	19.97	29.74	14.95	23.55	20.63
3	1.00	0.00	10.89	14.94	7.20	2.94	4.65	2.65	4.66
4	0.67	0.32	0.33	0.00	0.00	0.33	0.33	0.00	0.00
5	0.67	0.00	0.33	0.00	0.00	0.00	1.99	0.00	0.33
6									
7	16.67	8.77	11.88	7.47	12.44	11.76	2.99	8.46	9.65
8	0.00	0.32	0.33	0.00	0.33	0.33	0.00	0.00	0.00
9	0.33	0.32	0.99	0.00	0.65	0.33	6.64	0.00	0.00
10	0.00	1.95	2.31	0.65	1.31	1.31	0.66	3.32	0.67
11	0.67	0.32	1.98	0.32	0.65	0.65	1.00	1.00	2.00
12									
13	2.67	0.00	0.00	0.65	1.31	0.00	0.33	0.33	1.00
14	1.00	0.00	0.33	0.00	0.00	0.00	0.33	0.33	0.33
15	5.67	3.25	4.95	4.22	1.96	3.59	0.66	2.32	3.33
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67
17	0.33	0.00	0.66	0.32	0.65	0.00	0.66	0.00	0.00
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For Review Only

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2	17.84	18.06	18.22	18.28	18.38	18.42	18.62	18.82	19.02
3	3229	3270	3299	3310	3329	3336	3373	3410	3446
4	0.33	0.00	1.67	2.66	1.33	0.00	0.33	0.65	0.00
5	0.00	0.00	0.00	1.00	0.33	0.67	0.00	0.32	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.65	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00
8	0.00	0.66	0.00	0.00	1.66	1.33	0.00	0.00	1.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.33	0.33	2.00	3.65	1.66	1.33	1.33	0.65	1.33
11	0.17	0.33	0.33	0.66	1.00	0.67	0.66	0.32	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.83	0.83	1.33	1.16	0.50	0.33	1.33	0.65	0.00
14	0.00	0.00	0.33	0.00	0.17	0.00	0.00	0.00	0.67
15	0.00	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00
16	0.00	0.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	1.00	0.66	1.33	0.00	0.00	0.00	0.00	0.00	2.67
18	1.33	1.33	0.50	0.33	2.00	0.67	0.66	0.65	2.67
19	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00
20	0.00	0.33	0.00	0.33	0.33	0.33	0.00	0.00	0.00
21	1.50	4.48	2.17	1.66	2.66	2.83	3.82	2.27	2.83
22	0.67	5.97	4.67	6.98	1.66	1.00	5.65	2.91	2.33
23	0.00	0.00	0.33	0.66	0.17	1.00	0.00	0.81	0.33
24	1.33	1.49	4.17	2.33	0.33	1.16	1.99	3.07	3.33
25	0.33	0.66	0.00	0.33	0.67	0.33	0.00	0.65	0.17
26	4.99	2.32	1.67	5.65	4.99	1.00	2.33	1.94	2.67
27	0.00	0.33	0.00	0.00	0.33	0.00	0.00	0.00	0.00
28	0.67	0.00	0.67	0.17	0.00	0.67	0.00	0.49	0.00
29	1.16	1.99	1.17	1.16	0.67	0.50	1.16	0.81	1.83
30	0.00	1.66	0.67	0.00	0.00	0.00	0.00	0.00	0.67
31	2.83	1.16	0.83	1.66	1.16	2.66	1.33	1.29	1.17
32	3.66	5.47	4.33	9.63	5.49	11.31	4.49	5.34	9.00
33	2.66	3.98	2.33	3.99	3.33	3.66	6.31	3.56	2.33
34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	1.83	0.17	0.83	1.33	0.83	0.33	2.16	1.78	2.17
36	2.66	2.16	4.83	3.32	0.33	0.00	0.33	1.62	0.67
37	0.67	1.33	0.67	0.66	1.66	1.16	1.00	0.97	1.67
38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	2.00	1.33	1.33	0.66	2.00	2.33	1.33	1.62	0.67

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2	19.28	19.48	19.68	19.87	20.03	20.07	20.22	20.27	20.47
3	3494	3531	3568	3603	3632	3639	3667	3676	3713
4	1.33	1.31	0.67	1.98	0.00	2.00	0.00	0.33	0.00
5	1.00	0.16	0.00	0.00	0.33	0.00	0.17	0.00	0.67
6	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00
8	3.33	0.00	0.33	0.00	2.00	0.00	1.00	0.00	1.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	1.00	1.31	4.00	1.65	1.00	1.00	0.67	2.33	2.00
11	0.33	0.00	0.00	0.33	0.33	0.17	0.00	0.17	1.33
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.83	0.82	0.33	0.49	0.67	0.83	0.17	1.00	1.33
14	0.00	0.16	0.00	0.33	0.00	0.17	0.00	0.00	0.00
15	0.67	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.65	1.00	0.99	1.33	0.33	0.00	0.66	1.00
18	2.67	1.15	2.33	3.46	2.00	2.33	1.00	1.99	1.67
19	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
20	0.00	0.33	0.33	0.33	0.00	0.00	0.33	0.00	0.00
21	1.83	1.31	1.50	3.13	4.16	1.83	2.66	2.99	2.83
22	3.00	0.98	2.33	4.94	4.66	5.33	2.66	6.31	1.67
23	0.00	0.16	0.00	1.15	0.17	0.50	0.00	0.50	0.50
24	1.67	1.31	0.67	2.14	1.50	1.00	1.00	1.00	4.00
25	0.00	0.00	0.00	0.00	1.00	0.67	0.00	0.00	0.33
26	1.33	2.95	3.00	3.62	1.33	4.83	0.67	1.33	0.67
27	1.00	0.00	0.17	0.16	0.33	0.67	0.33	0.00	0.17
28	0.00	0.00	0.33	0.00	0.00	0.50	0.00	0.66	0.17
29	0.83	0.16	0.50	0.16	1.83	0.33	0.67	0.66	0.50
30	0.00	0.33	0.00	0.99	0.00	0.67	0.00	0.00	0.00
31	0.67	0.65	1.00	0.16	1.16	0.33	1.83	0.33	1.33
32	7.17	6.55	8.50	10.21	6.99	4.83	9.48	6.31	5.83
33	1.67	1.64	5.33	3.29	3.99	2.67	1.00	1.00	4.00
34	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00
35	0.50	2.29	1.17	0.82	1.00	1.00	1.00	0.00	1.33
36	1.50	1.47	0.33	1.32	1.00	0.83	2.33	3.32	2.67
37	2.50	0.98	0.67	2.64	1.16	1.83	1.16	1.33	0.67
38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	1.00	0.33	2.33	1.98	1.33	1.67	2.33	1.33	0.67

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2	36.00	31.42	32.00	25.37	30.28	20.33	39.93	27.57	33.00
3	0.33	19.64	4.00	1.98	2.00	1.67	1.33	8.97	0.00
4	0.33	0.00	0.00	0.00	0.00	0.33	0.33	0.33	0.33
5	0.00	0.33	0.33	0.00	0.00	0.00	0.00	0.00	0.33
6									
7	7.83	5.89	16.17	9.23	5.66	14.33	6.99	13.12	8.17
8	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.33	0.00
9	0.33	0.00	0.00	0.66	1.00	0.33	0.00	0.00	0.00
10	0.00	1.31	0.33	0.66	1.33	0.33	0.00	0.66	0.67
11	0.00	0.00	0.00	0.00	0.67	0.00	0.00	0.00	0.00
12									
13	0.33	0.00	0.33	0.00	0.33	0.00	0.67	2.33	3.00
14	0.33	0.00	0.00	0.33	0.33	0.00	1.33	0.00	0.33
15	2.67	2.95	1.33	2.64	2.33	2.00	3.99	0.66	2.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.33	0.00	0.00	0.00	0.67	0.00	0.67	0.00	0.00
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For Review Only

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2	20.67	20.87	21.07	21.27	21.46	21.5	21.66	21.67	21.7
3	3750	3786	3823	3856	3884	3890	3914	3916	3920
4	0.33	4.60	0.33	0.33	0.00	0.00	0.00	0.00	0.33
5	0.00	0.16	0.17	0.66	0.00	0.33	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33
8	0.00	0.00	0.00	0.00	0.00	0.33	1.32	0.32	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	2.30	1.00	0.99	0.33	1.67	0.99	0.00	1.33
11	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.83	0.00	0.50	0.50	1.33	0.17	1.32	0.81	0.66
14	0.00	0.00	0.00	0.00	0.00	0.33	0.17	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.33	0.17	0.00	0.00	0.00	0.00	0.00
17	1.00	0.99	0.00	0.99	0.33	0.00	0.00	0.00	0.00
18	0.33	1.81	1.00	0.66	1.00	0.83	2.48	0.00	0.33
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.33	0.00	0.00	0.00	0.67	0.33	0.33	0.32	0.00
21	1.16	1.64	1.16	0.99	3.33	1.00	3.48	1.13	2.33
22	4.64	2.96	3.32	2.98	5.66	1.67	2.98	2.58	3.99
23	0.50	0.00	0.33	0.00	0.00	0.00	0.17	0.16	1.00
24	2.82	1.97	1.33	1.99	1.33	2.33	1.99	1.61	1.33
25	0.33	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.33
26	2.32	3.28	4.98	6.29	0.33	2.00	0.00	0.64	2.99
27	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.49	0.33	0.33	0.33	0.50	0.00	0.00	0.17
29	0.66	0.16	0.00	2.15	1.00	0.17	0.00	0.00	1.33
30	0.00	0.00	0.66	0.00	1.00	0.00	0.00	0.32	0.00
31	0.83	1.31	0.50	0.83	2.00	0.50	0.99	0.81	1.00
32	5.97	8.70	4.81	7.78	7.49	9.33	4.30	6.76	5.48
33	2.99	2.30	0.33	2.98	2.00	2.67	3.31	0.97	2.99
34	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00
35	0.66	0.82	1.82	1.16	1.00	0.17	0.17	0.00	0.17
36	0.66	1.31	1.00	1.99	0.50	2.67	1.32	0.64	0.66
37	2.16	1.48	0.00	1.32	0.50	1.00	0.17	0.48	1.00
38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	1.99	0.99	0.66	0.33	0.67	0.33	2.65	2.58	4.32

1	21.86	21.93	22.06	22.14	22.18	22.25	22.28	22.47	22.505
2	3944	3955	3974	3986	3992	4003	4007	4036	4042
3	0.00	0.33	0.34	0.00	0.00	0.00	0.98	0.33	0.00
4	0.33	0.33	1.34	0.00	0.00	0.33	0.00	0.00	0.33
5	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.33	0.00
6	0.00	0.83	0.00	0.00	0.33	0.33	0.33	0.00	0.33
7	0.33	0.33	0.00	0.00	0.33	0.66	0.00	0.99	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	1.33	0.00	1.01	0.00	0.67	8.31	0.65	0.66	0.00
10	0.66	0.00	0.34	1.00	0.00	0.00	0.00	0.00	0.33
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.17	0.50	2.18	1.33	0.83	0.83	0.16	0.33	0.50
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.66	0.00	0.00	0.00	0.33	0.00	0.82	0.33	6.66
16	2.82	0.67	0.50	0.00	0.83	1.16	0.98	0.66	1.00
17	0.00	1.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.00
20	0.66	0.00	0.00	0.00	0.33	0.00	0.82	0.33	6.66
21	2.82	0.67	0.50	0.00	0.83	1.16	0.98	0.66	1.00
22	0.00	1.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	2.49	1.16	2.51	2.00	1.83	1.00	2.12	1.64	0.50
26	4.32	1.66	3.02	0.00	3.00	1.33	3.59	3.62	4.33
27	1.00	0.00	1.01	0.33	0.17	0.66	0.00	0.33	0.67
28	1.66	1.66	1.34	0.67	1.50	1.33	1.63	2.63	1.00
29	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.66	0.00
30	1.99	0.67	1.01	1.33	1.00	0.00	1.63	3.29	0.67
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	0.00	0.67	0.34	0.00	0.00	0.00	0.16	0.00	0.00
33	0.00	1.00	0.00	0.83	1.00	0.33	0.98	1.15	0.67
34	0.00	0.00	0.00	0.67	0.00	1.50	0.82	0.00	0.00
35	0.33	0.83	0.50	0.00	0.33	0.83	0.65	0.82	0.33
36	10.13	8.32	9.05	6.32	11.65	5.32	6.36	8.72	5.49
37	1.33	3.33	0.34	2.00	1.66	1.99	1.96	1.97	3.00
38	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00
39	0.00	0.83	0.00	0.33	1.33	0.33	1.14	2.47	0.33
40	0.00	0.33	1.34	0.00	1.83	0.00	0.33	0.66	0.67
41	1.33	0.67	0.50	0.67	0.83	2.99	0.98	0.82	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	0.66	0.33	1.34	1.00	0.00	0.33	1.31	0.33	0.33
51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00
57	0.00	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00
58	0.66	0.33	0.67	0.33	0.00	0.00	0.00	0.00	0.00
59	2.33	3.66	2.35	1.66	1.33	1.66	3.26	1.32	1.66
60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1									
2	43.52	39.93	44.89	48.92	52.58	49.17	41.44	32.89	57.90
3	1.00	0.00	1.34	3.00	1.00	1.33	0.33	16.45	0.00
4	0.00	0.33	0.34	0.33	0.33	0.00	0.33	0.00	0.00
5	0.00	0.33	0.67	0.33	0.00	0.33	0.33	0.00	0.00
6									
7	8.64	17.64	7.71	10.15	3.00	4.65	15.17	5.26	4.99
8	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00
9	0.00	0.00	0.34	1.66	0.00	0.00	0.00	0.33	0.00
10	0.33	0.67	0.34	1.33	0.67	1.33	1.31	0.33	1.33
11	0.33	0.33	0.00	0.67	0.00	0.33	0.00	0.00	0.00
12									
13	0.66	0.00	0.00	0.00	0.00	0.66	0.00	0.00	0.00
14	0.33	0.00	0.34	0.00	0.00	0.33	0.00	0.33	0.33
15	1.33	3.00	0.67	2.00	1.33	3.32	2.28	1.97	0.67
16	0.00	0.00	0.67	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.34	0.33	0.33	0.33	0.00	0.66	0.00
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For Review Only

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2	22.59	22.65	22.7	22.705	22.77	22.81	22.86	23	23.06
3	4054	4063	4070	4072	4081	4087	4094	4115	4124
4	0.00	0.00	0.67	0.00	0.00	1.00	0.00	0.67	0.00
5	0.33	0.33	0.33	0.82	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.33	0.00	0.00	0.33	0.00	0.00
8	0.00	0.00	0.33	0.66	1.31	0.67	1.99	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.66	0.67	0.33	0.66	0.67	0.00	0.00	0.00
11	0.00	0.00	0.50	0.33	0.33	0.50	0.00	0.17	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	1.66	1.16	1.17	0.66	1.15	2.16	1.99	0.67	0.65
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00
18	0.00	0.66	1.00	0.66	0.00	0.33	0.33	0.33	0.65
19	1.00	1.32	3.67	0.33	1.64	0.67	0.33	1.00	1.31
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.66	0.00	0.00	0.00	0.00
22	1.66	0.99	1.33	1.97	2.13	3.00	1.99	1.83	1.47
23	0.66	3.97	6.00	2.63	1.97	2.00	5.30	0.67	0.00
24	0.50	0.33	0.83	0.66	0.33	0.00	0.00	0.33	1.31
25	1.33	1.98	1.67	0.16	2.96	2.00	2.98	3.00	1.64
26	0.00	0.00	0.67	0.00	0.00	0.33	0.00	0.00	0.33
27	0.66	0.33	3.33	2.96	0.33	3.00	0.66	0.33	1.31
28	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00
29	0.00	0.00	0.00	0.16	0.66	0.17	0.33	0.17	0.33
30	0.33	1.65	0.17	0.66	1.81	0.67	0.00	1.00	1.31
31	0.00	0.33	2.67	0.00	0.33	0.00	0.00	0.33	0.00
32	0.50	2.48	0.00	1.97	2.13	0.17	0.00	0.83	2.29
33	11.77	9.09	6.67	9.38	11.66	7.82	7.45	8.00	8.18
34	2.32	2.64	2.67	2.30	1.64	2.00	1.99	2.33	2.62
35	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00
36	0.33	0.00	0.50	1.81	0.99	0.67	1.32	0.50	0.65
37	0.66	0.00	1.33	1.81	0.00	0.00	0.66	2.33	0.65
38	0.50	0.00	0.33	0.66	1.48	1.16	1.66	1.67	1.64
39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.33	0.99	0.00	1.00	0.66	1.33	0.98

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2	64.68	58.84	35.00	47.04	54.19	35.94	47.02	46.67	51.06
3	0.66	0.00	17.33	0.00	0.00	1.66	0.33	2.67	1.31
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33
5	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.33	0.33
6									
7	2.32	3.14	2.33	5.43	2.96	12.65	5.13	8.67	5.40
8	0.33	0.00	0.00	0.00	0.33	0.00	0.00	0.33	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00
10	0.00	0.99	0.33	0.66	0.66	1.00	0.33	0.67	0.65
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33
12	0.00	0.33	0.00	0.00	0.33	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	1.99	1.65	0.33	2.63	0.33	1.66	2.98	2.33	2.95
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.33	0.98
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For Review Only

1	26.81	26.99	27.01	27.21	27.41	27.61	27.81	28.01	28.21
2	4732	4787	4793	4809	4819	4830	4841	4852	4865
3	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.33	0.33	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.65	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.65	0.33	0.00	0.67	0.00	1.98
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.65	0.99	0.00	0.00	0.66	0.33
10	0.00	0.00	0.00	0.00	0.66	0.33	0.00	0.00	0.33
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	1.98	1.33	1.33	1.31	1.81	1.00	1.67	1.31	2.31
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33
16	0.33	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00
17	0.00	1.33	0.67	1.14	0.66	0.00	11.50	0.33	0.33
18	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.33	0.00	0.65	0.00	0.00	0.00	0.00	0.00
20	1.82	1.67	1.00	1.80	1.32	1.50	1.67	4.11	0.49
21	1.98	2.33	1.00	2.61	2.63	3.00	0.00	1.31	0.33
22	0.83	0.00	2.00	0.16	1.32	1.33	0.50	0.00	1.98
23	0.33	1.00	1.00	2.45	1.32	1.50	1.00	1.64	0.99
24	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00
25	1.32	1.33	0.33	0.00	1.32	2.00	2.33	1.97	3.29
26	0.00	0.17	0.00	0.16	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.17	0.16	0.00	0.00	0.00	0.00	0.00
28	0.66	0.67	0.67	0.00	0.16	0.17	0.00	1.15	0.82
29	0.00	0.00	0.00	0.00	1.48	0.67	0.00	0.82	0.33
30	0.00	0.67	0.33	0.65	0.16	0.67	0.17	0.66	0.49
31	2.64	4.67	2.83	6.86	6.91	7.17	8.00	4.11	7.08
32	2.64	2.00	2.00	1.96	1.97	2.00	1.00	3.28	1.65
33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	0.33	0.50	0.00	0.00	0.00	0.50	0.00	0.16	0.33
35	0.00	1.67	0.00	0.98	1.32	0.67	0.00	0.33	0.99
36	0.33	0.83	0.83	0.16	1.81	1.33	1.83	1.81	0.99
37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00
42	1.32	0.67	1.67	0.00	0.66	2.00	0.00	0.33	0.99
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00
49	1.32	0.67	1.67	0.00	0.66	2.00	0.00	0.33	0.99
50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58	0.00	0.00	0.00	0.65	0.00	0.00	0.00	0.00	0.00
59	3.31	1.00	3.00	0.65	1.64	2.33	0.67	0.66	1.65
60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1	28.415	28.615	28.81	29.01	29.22	29.415	29.615	29.75	29.805
2	4913	4959	5002	5048	5096	5141	5170	5180	5184
3	0.00	0.00	0.33	0.00	0.00	1.00	0.64	0.67	0.00
4	0.33	0.00	0.00	0.00	0.00	0.33	0.16	0.00	0.00
5	0.00	0.00	0.67	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	1.64	0.33	0.00	0.00	0.00
7	0.33	0.00	0.00	0.33	0.00	1.00	0.00	0.00	0.33
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00
9	1.33	0.00	1.67	0.00	0.99	0.00	10.53	0.67	0.00
10	0.00	0.16	0.00	0.17	0.00	0.00	0.32	0.33	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	1.00	1.15	0.50	0.33	1.32	2.49	1.28	2.00	2.15
13	0.00	0.00	0.17	0.00	0.16	0.00	0.00	0.50	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.33	0.00
18	1.00	0.98	0.00	7.28	0.33	1.00	0.32	1.00	2.64
19	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.33	0.00
21	1.67	2.29	1.17	1.32	3.29	2.99	2.07	2.16	0.99
22	1.67	0.65	7.33	3.31	4.61	1.99	6.06	1.33	2.64
23	0.00	0.00	0.00	0.00	0.00	0.66	0.32	0.17	0.33
24	2.83	2.62	1.00	1.32	2.80	3.48	2.23	1.83	2.15
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00
26	2.00	0.65	0.67	1.66	2.96	0.00	1.91	0.33	1.98
27	0.67	0.00	0.00	0.00	0.00	0.00	0.32	0.50	0.00
28	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00
29	1.67	1.15	0.33	0.50	0.33	0.00	0.64	1.50	1.32
30	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00
31	0.67	0.16	0.33	0.17	0.99	0.33	0.96	0.67	0.50
32	4.83	5.07	14.67	11.09	8.39	12.77	11.80	10.98	8.43
33	3.67	1.96	3.00	3.31	2.63	4.98	0.32	4.99	3.31
34	0.00	0.16	0.00	0.00	0.00	0.17	0.00	0.00	0.00
35	0.17	0.16	0.00	0.33	0.99	0.66	0.32	0.67	0.50
36	0.00	0.65	1.17	0.33	1.64	0.33	0.16	2.33	0.66
37	1.67	0.49	0.83	0.99	1.64	0.00	0.64	0.50	0.99
38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	1.33	0.00	0.33	0.99	0.00	0.66	2.23	1.00	0.66
45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.33
47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51	1.33	0.00	0.33	0.99	0.00	0.66	2.23	1.00	0.66
52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.33
54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00
57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58	0.00	0.65	0.00	0.00	0.99	0.33	0.00	0.67	0.33
59	2.00	2.95	0.33	0.66	0.99	1.99	1.28	1.00	1.32
60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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2	53.33	57.28	46.67	42.05	44.41	41.79	38.28	37.60	48.60
3	0.00	0.00	0.00	0.00	0.33	0.00	0.00	3.66	0.99
4	0.33	0.00	0.33	0.00	0.00	0.00	0.32	0.33	0.00
5	0.00	0.33	0.00	0.00	0.66	0.00	0.32	1.00	0.00
6	3.17	2.78	3.83	7.28	3.45	8.13	4.47	7.65	3.97
7	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.33	0.66	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.33	0.66	0.00	0.00	0.00	0.00
10	1.67	0.33	0.00	1.66	0.99	2.32	0.96	1.00	0.99
11	0.67	0.00	0.00	0.00	0.00	0.33	0.32	0.33	0.33
12	0.00	0.00	1.00	0.33	0.66	0.00	0.32	0.00	0.00
13	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00
15	3.33	8.84	0.33	7.28	2.63	1.66	1.59	3.00	6.28
16	0.00	0.00	0.67	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	1.32	0.00	0.00	0.00	0.00
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2	35.26	31.95	46.05	48.76	72.26	49.92	35.55	42.40	51.67
3	0.66	3.99	0.33	0.00	0.32	0.00	0.33	0.67	0.00
4	0.00	0.33	0.00	0.00	0.00	0.00	0.33	0.33	0.00
5	0.66	0.00	0.00	0.00	0.32	0.00	0.66	0.33	0.33
6									
7	11.70	7.32	4.77	9.78	2.10	15.97	7.64	13.52	9.83
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	1.32	0.33	1.32	1.00	0.00	0.33	0.33	0.33	0.67
11	0.33	0.33	0.00	0.00	0.32	0.00	0.00	0.67	0.00
12									
13	0.33	0.00	0.00	0.00	0.00	0.00	5.32	0.00	0.00
14	0.33	0.33	0.33	0.00	0.32	0.00	0.00	0.00	0.33
15	3.95	2.33	3.95	4.64	1.61	2.00	2.33	6.01	1.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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2	64.60	44.37	44.95	34.45	45.87	42.72	31.00	51.32	40.53
3	0.00	0.33	0.33	0.67	0.33	0.33	1.33	0.00	0.33
4	0.00	0.00	0.00	0.00	0.33	0.33	0.00	0.33	0.00
5	0.00	0.65	0.00	0.33	0.00	0.00	0.00	0.00	0.00
6									
7	2.61	10.11	11.73	8.03	5.45	1.49	16.50	6.79	6.59
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00
10	2.28	0.65	0.33	1.34	1.32	0.99	1.00	0.99	0.33
11	0.33	0.00	0.65	0.00	0.33	0.33	0.00	0.00	0.66
12									
13	0.65	0.00	0.33	0.67	0.99	2.32	0.33	1.66	0.00
14	0.00	0.00	0.00	1.00	0.00	0.00	0.33	0.00	0.00
15	3.59	4.89	4.23	6.02	4.29	9.60	3.00	8.61	16.47
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.33	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00
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2	37.34	37.51	37.54	37.71	37.74	37.86	37.91	37.95	38.01
3	6175	6201	6206	6231	6236	6255	6261	6267	6276
4	0.00	0.00	0.00	0.00	1.33	0.00	0.00	0.00	0.00
5	0.33	0.00	0.17	0.00	0.67	1.00	0.17	0.00	0.33
6	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00
7	0.67	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00
8	0.33	0.00	0.33	3.53	0.00	0.33	0.66	0.33	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17
10	0.00	0.66	1.00	0.64	1.33	0.00	0.99	1.63	0.00
11	0.33	0.00	0.17	0.00	0.33	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	1.50	0.83	1.00	0.64	0.50	0.67	0.66	1.79	0.83
14	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.16	0.00
15	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.67	0.33	0.00	0.00	0.00	0.00	0.00	0.65	0.00
18	0.67	0.99	0.67	1.92	1.00	0.33	0.66	2.60	1.33
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.33	0.00	0.67	0.00	0.00	0.67	0.00	0.00	0.00
21	2.00	0.99	1.00	0.48	1.50	1.00	0.99	0.98	2.17
22	3.67	0.66	1.33	0.00	4.99	1.66	0.33	1.30	2.00
23	1.17	0.33	0.00	0.00	0.17	0.00	0.33	0.16	0.83
24	4.67	1.82	1.00	1.28	1.66	1.00	2.98	2.60	1.17
25	0.00	0.00	0.33	0.00	0.33	0.00	0.00	0.00	0.00
26	1.33	0.33	0.33	2.24	0.67	0.00	0.00	0.00	0.00
27	0.17	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00
28	0.00	0.17	1.83	0.32	0.83	0.67	0.00	0.33	0.00
29	0.67	0.00	0.50	1.28	1.50	0.33	0.17	0.81	0.83
30	0.00	0.00	0.00	0.64	0.00	0.00	0.66	0.65	0.00
31	0.83	0.66	0.33	0.32	0.50	0.00	0.66	0.98	0.00
32	9.00	6.95	6.32	8.81	10.82	12.31	6.61	8.78	10.17
33	5.67	0.99	3.33	2.24	5.32	2.66	1.98	1.95	1.67
34	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	0.50	0.33	0.17	0.96	0.00	0.17	0.99	0.00	0.50
36	0.67	0.66	0.00	0.00	0.00	0.67	1.32	0.00	1.33
37	0.83	0.50	0.17	0.64	0.83	0.50	0.33	0.65	0.33
38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.33	0.32	0.33	0.33	0.00	0.00	0.00
42	0.33	0.00	13.31	0.32	3.00	0.33	0.00	0.98	2.00
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	0.00	0.00	0.33	0.32	0.33	0.33	0.00	0.00	0.00
50	0.33	0.00		0.32	3.00	0.33	0.00	0.98	2.00
51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33
58	0.67	3.97	1.66	2.24	3.33	3.33	3.31	1.95	5.00
59	1.33	0.00	1.66	0.96	0.67	0.00	0.00	1.30	0.67
60	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00

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2	38.11	38.21	38.52	38.63	38.71	38.91	39.11	39.31	39.51
3	6297	6319	6390	6415	6433	6478	6523	6568	6614
4	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00
5	0.00	0.33	0.33	0.00	0.33	0.99	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00	0.00
7	0.00	0.00	0.00	0.66	0.00	0.00	0.33	0.00	0.00
8	0.00	0.33	1.33	0.00	0.00	0.00	0.33	0.00	0.66
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	1.67	1.65	0.00	2.81	0.65	1.99	0.00	0.00	0.00
12	0.00	0.33	0.00	0.33	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.83	1.81	1.99	1.49	1.15	2.98	1.16	1.65	2.31
16	0.00	0.49	0.00	0.50	0.00	0.00	0.33	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.66
18	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00	0.33
19	0.00	0.00	0.00	0.33	0.33	0.99	0.00	0.00	0.00
20	0.00	0.00	0.83	1.32	0.33	0.17	0.33	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.16	0.00	0.00	0.00	0.00	0.50	0.00	0.00
23	3.00	1.32	2.99	3.48	2.13	2.48	1.66	1.81	0.99
24	3.33	2.31	0.00	0.66	0.00	0.33	1.66	3.95	1.32
25	0.67	0.66	0.00	0.00	0.00	0.17	0.00	0.00	0.66
26	0.67	1.65	1.33	1.32	2.78	3.15	1.00	1.32	1.98
27	0.00	0.00	0.00	0.99	0.33	0.33	0.00	0.00	0.00
28	3.33	2.64	4.31	1.32	3.60	0.99	0.67	0.00	1.98
29	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99
30	0.33	0.00	0.00	0.66	0.65	0.00	0.00	0.00	0.33
31	0.67	0.16	0.33	0.17	0.33	0.83	1.16	1.15	1.32
32	1.33	0.00	0.33	0.00	0.00	0.66	0.00	0.00	0.00
33	0.67	0.82	0.33	2.32	3.44	0.33	1.00	0.33	0.83
34	9.50	5.60	7.30	12.91	6.55	13.41	8.32	10.87	9.41
35	3.00	5.27	2.32	3.31	2.62	3.97	10.65	3.95	5.28
36	0.00	0.00	0.00	0.00	0.33	0.00	0.33	0.00	0.00
37	0.33	0.82	1.16	0.33	0.49	1.16	0.33	0.82	0.17
38	0.00	0.66	0.33	0.00	0.98	0.99	0.00	0.66	0.00
39	0.00	0.66	0.83	0.66	1.80	0.50	0.17	0.66	0.66
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.66	0.00	0.00	0.00	0.00	0.00	0.66	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	1.67	0.99	1.66	2.65	0.33	3.97	2.00	0.66	1.98
47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00
49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00
52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	3.33	2.31	3.32	4.30	3.60	2.98	4.99	1.65	2.31
54	0.00	0.99	1.00	0.00	0.00	0.00	3.99	0.00	0.99
55	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00

1									
2	39.71	39.91	40.11	40.31	40.51	40.71	40.91	41.13	41.26
3	6659	6682	6699	6717	6734	6751	6768	6787	6799
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.66	0.33	0.81	0.00	0.17	0.00	0.00	0.00	0.66
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.65	0.33	0.99	0.00	0.00	0.00	0.00
8	0.66	0.00	0.00	0.66	0.99	1.98	0.00	0.00	1.32
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.33	0.00	1.29	1.99	0.99	0.33	0.00	0.00	1.32
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	1.65	2.67	1.45	0.66	0.66	1.32	0.67	2.25	1.16
15	0.00	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.00
18	0.00	0.00	0.97	0.00	0.33	0.00	0.00	0.97	0.33
19	0.00	3.33	0.00	0.00	1.65	1.49	0.33	0.00	0.99
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	1.98	1.67	0.81	0.99	0.66	0.99	1.17	0.97	1.16
23	2.64	0.67	1.94	3.64	5.95	0.33	3.00	0.00	2.31
24	0.33	0.83	0.00	0.00	0.17	0.50	0.17	0.00	0.50
25	0.49	0.33	0.65	0.83	3.80	2.97	1.00	1.77	1.65
26	0.33	0.33	0.00	0.00	0.00	0.00	0.00	0.32	0.33
27	1.32	1.67	0.00	0.00	0.33	1.65	0.33	0.64	0.33
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00
29	0.99	0.17	0.81	0.00	0.99	0.17	0.00	0.32	0.00
30	0.33	0.17	0.97	0.66	0.17	0.17	0.67	0.64	1.32
31	0.33	0.33	0.00	0.00	0.00	1.32	0.67	0.00	0.50
32	0.82	0.50	1.13	0.33	1.32	0.83	1.67	0.48	1.16
33	13.51	15.17	13.41	9.11	8.76	7.43	5.00	11.43	7.43
34	4.28	3.67	3.88	1.99	1.65	2.97	4.67	3.22	4.29
35	0.00	0.00	0.32	0.00	0.00	0.00	0.33	0.32	0.17
36	0.82	1.00	0.32	0.66	0.33	0.66	0.50	0.64	0.33
37	0.33	0.67	0.97	0.17	0.66	0.66	1.00	0.32	1.82
38	0.49	1.33	0.48	0.66	1.16	1.32	0.50	1.61	1.49
39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00

1									
2	41.6	41.76	41.8	41.96	42.03	42.165	42.24	42.36	42.56
3	6828	6842	6845	6859	6865	6877	6883	6894	6911
4	0.00	0.00	0.00	0.00	0.33	1.63	0.95	0.64	0.00
5	0.00	0.67	0.00	0.00	0.33	0.65	0.32	1.28	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.28	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.66	0.00	0.32	0.00	0.00
9	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.67	0.99	2.12	0.95	0.00	0.32
11	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.33	1.50	0.63	1.00	1.32	1.63	0.79	0.80	0.32
15	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.32	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.66	0.33	0.63	0.00	0.00
19	1.00	0.00	0.00	0.67	0.00	0.98	2.86	0.00	0.97
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.96	0.00
21	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.32	0.00
22	0.00	0.50	1.11	1.17	0.83	1.31	0.95	0.64	0.48
23	0.33	1.33	0.63	0.00	1.32	2.61	1.27	0.00	0.65
24	0.17	0.00	0.32	0.00	0.66	0.00	0.63	0.00	0.00
25	2.33	1.00	1.58	0.33	0.99	4.73	2.70	0.32	0.65
26	0.00	0.33	0.00	0.67	0.00	0.33	0.00	0.00	0.00
27	0.00	0.67	0.63	0.00	1.98	1.31	0.63	0.00	0.65
28	0.33	0.17	0.00	0.00	0.00	0.00	0.16	0.00	0.16
29	0.50	0.67	0.00	0.33	1.16	0.00	0.16	0.00	0.32
30	0.67	0.50	0.32	0.00	0.99	0.65	0.32	0.32	0.97
31	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.65
32	0.17	0.00	0.63	0.50	1.16	0.00	0.16	0.96	0.65
33	9.50	5.50	5.06	7.33	5.29	6.69	7.30	7.67	3.87
34	7.00	7.67	1.58	3.00	3.97	2.94	2.86	2.72	3.23
35	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	0.00	0.33	0.32	0.17	0.33	0.00	0.32	0.00	0.32
37	1.17	0.33	0.95	1.17	0.00	0.82	0.32	0.00	0.32
38	0.50	0.83	0.79	1.00	0.33	0.33	0.63	0.48	0.00
39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.63	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.33	0.00	0.00	0.00	0.00	0.32	0.00	0.00
44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	4.00	3.67	5.38	3.00	0.99	3.59	1.27	1.60	6.13

1									
2	40.00	42.33	46.20	41.00	41.98	34.91	37.14	46.33	37.42
3	0.00	0.33	0.00	0.33	0.00	0.00	0.63	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00
5	0.00	0.00	0.00	0.33	0.66	1.31	0.95	0.00	0.97
6									
7	12.00	11.17	14.24	9.17	17.52	8.32	12.70	19.49	11.94
8	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00
10	1.67	1.00	1.90	1.67	0.33	3.59	1.59	0.96	5.81
11	3.00	0.33	0.00	1.00	1.32	1.31	1.90	0.32	9.68
12	0.00	0.33	0.95	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.33	0.95	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	1.33	0.32	0.00	0.33	0.33	0.00	0.00	0.00
15	6.67	7.00	6.01	15.00	5.62	2.61	6.03	1.28	3.87
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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For Review Only

1	42.76	42.96	43.16	43.36	43.56	43.76	43.88	43.96	44.16
2	6928	6946	6963	6980	6998	7015	7025	7032	7050
3	0.00	0.00	0.32	0.00	0.32	0.00	0.00	0.32	0.00
4	0.48	0.00	0.00	0.00	0.32	0.81	0.33	0.00	0.99
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.32	0.65	0.32	0.66
7	0.00	0.00	0.00	0.00	0.32	0.97	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.97	1.27	0.32	0.65	0.96	0.32	0.00	0.32	0.00
10	0.00	0.00	0.00	0.33	0.00	0.32	0.33	0.32	0.33
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	1.29	0.95	2.27	1.15	0.16	0.32	1.31	2.25	1.82
13	0.00	0.00	0.00	0.00	0.00	0.48	0.00	0.16	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.33	0.96	0.00	0.00	0.32	0.33
17	0.00	1.58	0.97	0.00	0.32	0.00	1.31	0.00	0.66
18	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00
19	0.32	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00
20	1.78	0.79	0.32	0.65	0.48	0.48	1.31	1.44	0.50
21	0.00	0.32	0.65	1.64	1.60	2.58	2.29	0.32	1.65
22	0.00	0.16	0.16	0.16	0.00	0.00	0.16	0.00	0.00
23	1.94	1.58	0.97	2.78	1.60	0.64	1.47	1.44	4.13
24	0.00	0.32	0.00	0.00	0.32	0.00	0.00	0.00	0.00
25	0.97	0.32	0.32	1.64	0.00	0.00	1.31	0.00	0.00
26	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.00
27	0.65	0.32	0.00	0.16	0.80	0.00	0.00	0.00	0.33
28	0.81	1.58	0.16	0.33	1.92	0.16	0.65	0.00	0.17
29	0.00	0.32	0.00	0.33	0.32	0.00	0.65	0.00	0.00
30	0.32	1.27	0.32	0.82	0.32	0.48	0.16	0.48	0.17
31	7.59	4.75	6.16	8.84	4.16	5.96	9.48	5.14	4.46
32	3.55	4.43	7.46	3.93	2.88	3.54	1.63	7.38	3.30
33	0.00	0.00	0.00	0.00	0.32	0.32	0.00	0.00	0.00
34	0.00	0.95	0.97	0.49	1.12	0.16	0.00	0.64	0.00
35	0.97	0.32	0.00	0.98	0.32	0.97	1.96	0.00	0.33
36	1.62	0.79	0.97	0.98	0.64	0.32	0.98	0.80	0.66
37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	0.00	0.00	0.32	0.00	0.32	0.00	0.00	0.00	0.00
40	0.32	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.00
41	0.97	1.90	0.97	2.62	3.20	2.25	1.63	1.61	0.99
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.65	0.00	0.00	0.00	0.00	0.00
44	0.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	0.00	0.32	0.00	0.00	0.00	0.32	0.00	0.00	0.33
47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	0.32	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.00
49	0.97	1.90	0.97	2.62	3.20	2.25	1.63	1.61	0.99
50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51	0.00	0.00	0.00	0.65	0.00	0.00	0.00	0.00	0.00
52	0.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	0.00	0.32	0.00	0.00	0.00	0.32	0.00	0.00	0.33
56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	0.32	0.95	0.32	0.98	0.00	0.64	0.98	0.96	2.64
58	0.97	0.95	0.65	0.00	1.92	1.61	0.65	0.64	0.66
59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60									

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1									
2	46.07	46.27	46.36	46.66	46.86	47.07	47.27	47.4	47.6
3	7215	7232	7240	7266	7283	7301	7319	7330	7347
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.67	0.00	0.50	0.00	0.17	0.17	0.00	0.00
6									
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.50	0.33	0.67	1.66	0.00	0.00	0.33
9	0.33	0.67	0.33	0.00	2.50	2.66	0.33	1.66	0.66
10	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.33	0.00	0.00	0.67	1.00	0.50	0.33	0.66	1.65
12	0.33	0.33	1.33	0.00	0.00	0.83	0.50	0.00	0.66
13									
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.83	1.16	2.00	3.00	1.83	1.33	2.50	2.82	2.81
16	2.33	2.00	0.83	2.50	0.83	2.16	3.50	2.49	5.12
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18									
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.33	0.67	0.33	0.00	0.33
21	1.33	1.00	0.00	1.00	0.33	0.33	0.67	0.00	0.66
22	0.33	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00
23									
24	0.00	0.00	0.00	0.33	0.17	0.33	0.33	0.00	0.00
25	2.50	2.16	2.50	5.16	2.66	3.83	5.00	4.15	2.64
26	1.33	3.33	4.66	3.00	1.00	2.00	1.33	4.32	1.32
27	0.50	0.33	0.50	0.33	0.00	0.33	0.00	0.00	0.00
28	0.33	1.00	0.00	0.33	0.00	0.67	0.00	1.00	0.66
29	0.33	0.67	0.00	0.00	1.33	0.00	0.17	0.00	0.00
30									
31	0.67	0.00	0.00	0.00	1.00	0.00	0.67	0.66	0.00
32	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00
33	0.17	0.50	0.00	0.33	0.33	1.16	1.00	0.17	1.65
34	1.00	0.67	1.50	0.00	0.17	0.33	0.50	0.00	0.00
35	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.50
36									
37	0.00	0.33	0.50	0.00	0.17	0.00	0.17	0.33	0.00
38	3.00	2.83	1.66	2.66	1.16	1.50	2.33	0.50	3.14
39	13.00	17.97	8.32	13.31	9.65	19.30	18.00	18.94	20.13
40	0.00	0.67	0.00	0.33	0.00	0.00	0.00	0.00	0.33
41									
42	0.00	0.00	0.00	0.00	0.33	0.00	0.33	0.33	0.00
43	0.67	0.00	0.67	0.00	0.00	0.00	0.00	0.00	0.00
44	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	0.33	0.00	0.00	0.33	0.00	0.00	0.33	0.00	1.65
47	0.00	0.00	0.33	0.33	0.00	0.33	0.00	0.00	0.33
48									
49	0.00	0.67	0.33	1.00	0.00	0.33	0.33	0.00	1.32
50	2.00	5.99	3.00	3.00	7.65	4.33	4.67	4.32	5.28
51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	0.00	0.00	0.00	0.67	0.00	0.33	0.67	0.00	0.33
53	0.67	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.66
54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33
55	0.00	0.33	0.33	0.00	0.33	0.00	0.00	0.33	0.00
56	0.00	0.00	0.00	0.00	0.67	0.33	0.33	0.66	0.33
57									
58	3.00	1.66	1.66	3.33	4.66	2.00	2.00	0.66	0.33
59	1.00	0.67	2.00	2.00	1.33	6.66	2.67	6.98	3.30
60	4.67	2.00	0.67	2.33	0.00	3.33	4.33	2.99	0.99

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2	16.00	26.62	24.29	19.30	13.98	8.65	26.33	13.95	11.88
3	0.00	0.33	2.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00
5	0.00	0.00	0.00	0.00	0.00	0.33	0.33	0.00	0.00
6									
7	16.83	8.82	19.80	5.66	24.96	13.98	5.33	14.45	2.81
8	0.00	0.00	0.00	0.00	0.67	0.00	0.00	0.00	3.96
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00
10	5.67	0.67	4.99	3.99	3.00	3.99	3.00	5.65	1.98
11	9.33	0.33	3.66	3.00	1.33	1.00	0.33	1.33	0.66
12	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.33	0.00
13	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.33	0.00
14	0.33	0.00	0.33	0.00	0.00	0.33	0.67	0.00	0.66
15	2.00	2.33	2.66	6.66	2.33	0.67	0.33	1.00	1.65
16	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	2.64
17	0.00	0.00	0.00	0.00	0.33	0.00	1.00	0.00	0.33
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2	47.71	47.91	48.11	48.31	48.46	48.55	48.72	48.99	49.2
3	7357	7374	7391	7409	7422	7429	7444.24	7467.666	7485.887
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.83	0.00	0.50	1.17	0.33	0.33	0.00	0.00	0.33
6	0.00	0.00	0.00	0.00	0.66	0.00	0.00	0.00	0.00
7	1.33	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.33
8	1.67	0.33	0.00	2.33	0.33	0.66	0.00	0.00	0.00
9	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	1.00	1.00	0.33	1.32	1.00	0.00	11.65	7.65
11	1.67	4.49	4.49	3.83	0.99	1.83	8.65	11.98	12.65
12	0.00	0.00	0.33	0.00	0.00	0.00	0.33	0.00	1.00
13	3.00	2.83	2.33	1.00	1.32	1.33	1.33	3.33	2.33
14	6.00	6.16	3.33	7.00	1.98	3.82	2.16	3.66	2.66
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00
16	0.00	0.00	0.33	0.00	0.00	0.00	5.32	3.00	1.33
17	0.00	1.33	0.33	0.00	0.00	0.00	0.33	2.00	0.00
18	0.00	1.33	0.33	0.83	0.66	1.66	2.16	2.16	7.49
19	0.67	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
20	0.00	0.00	0.00	0.33	0.33	0.00	0.33	4.66	1.33
21	1.33	2.16	0.83	0.17	0.99	0.50	0.33	0.17	0.17
22	1.33	4.99	2.33	3.33	0.33	2.66	0.00	0.67	0.67
23	0.33	1.16	0.00	0.00	0.00	0.00	0.50	0.00	0.00
24	2.33	1.50	1.00	0.67	0.00	4.32	0.83	3.33	0.83
25	0.33	0.00	0.33	0.00	0.00	0.00	0.00	1.00	2.50
26	0.00	0.67	0.00	0.00	0.33	1.33	0.00	1.33	0.00
27	0.00	0.00	1.66	0.67	0.00	0.17	3.00	0.83	1.83
28	0.00	2.00	0.67	0.67	0.33	2.33	0.00	0.00	0.00
29	0.17	0.67	0.17	2.17	1.82	1.99	0.00	0.33	0.17
30	0.33	0.00	1.66	2.33	0.00	1.66	2.83	2.66	1.00
31	0.17	0.83	0.50	0.33	0.83	0.00	0.50	0.17	0.17
32	0.67	0.50	0.00	0.33	1.98	1.16	0.00	0.33	0.83
33	9.00	7.65	0.00	1.67	7.93	2.33	0.00	1.33	0.33
34	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.17
35	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00
36	0.00	0.33	0.00	0.00	0.66	0.66	0.00	0.00	0.67
37	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00
38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	0.00	0.00	0.33	0.00	0.33	0.00	0.00	0.33	0.00
40	0.33	0.00	0.00	0.67	0.00	0.00	0.33	0.00	0.00
41	0.67	1.00	0.67	3.00	0.33	0.66	1.33	0.67	0.33
42	9.67	4.66	17.30	8.33	2.31	9.30	12.31	5.66	2.00
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00
44	0.33	0.00	0.00	0.00	0.00	0.33	0.67	1.66	6.32
45	0.67	0.33	1.00	1.00	0.00	0.33	0.00	0.00	2.66
46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	0.00	0.67	0.33	0.00	0.33	0.33	0.67	0.67	0.00
48	0.33	0.00	0.00	1.33	0.00	0.00	0.33	0.00	0.00
49	0.67	2.33	1.33	0.67	1.32	1.33	1.00	2.66	0.00
50	7.33	6.32	26.29	22.67	5.29	11.96	12.65	0.33	2.66
51	9.67	4.99	4.33	2.67	0.33	1.99	2.00	0.33	0.33

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2	49.38	49.55	49.835	49.87	49.98	50.44	50.655	50.85	51.07
3	7501.505	7516.255	7540.984	7544.02	7553.565	7593.477	7612.132	7629.051	7648.14
4	0.00	0.00	1.96	0.00	0.00	0.00	0.00	0.00	0.83
5	0.65	0.83	0.82	1.15	0.82	0.00	0.00	0.00	0.00
6	0.00	0.00	0.65	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.33	0.00	0.33	0.00	2.83	3.83	0.67	0.99
8	1.30	0.99	0.00	0.99	0.99	0.00	4.67	1.33	0.99
9	0.16	0.17	2.29	2.80	0.82	6.16	6.00	2.83	1.49
10	7.97	5.45	5.24	2.80	1.15	0.67	2.67	1.33	4.14
11	1.95	0.99	0.16	0.33	0.00	0.00	0.33	0.50	0.17
12	0.33	0.33	0.16	8.57	1.98	0.00	3.33	0.00	0.00
13	2.76	0.33	0.16	0.00	0.00	0.00	1.00	0.00	0.17
14	0.81	0.66	0.49	0.99	0.00	0.33	0.50	0.00	0.00
15	0.00	0.00	1.31	0.00	0.00	0.00	0.00	0.00	0.99
16	0.49	0.00	0.00	0.00	0.16	0.67	0.00	0.00	0.00
17	0.65	1.82	0.49	0.16	0.33	1.33	2.33	0.33	0.50
18	13.17	7.77	3.44	3.29	5.60	6.99	4.67	1.00	2.15
19	0.33	0.66	1.15	0.00	0.33	0.00	0.00	0.00	0.00
20	2.60	0.33	0.33	0.00	0.00	0.33	0.00	0.00	0.00
21	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00
22	1.63	0.99	2.62	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	2.45	0.00	0.00	0.00	0.00	0.00	0.00
24	0.33	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00
25	7.80	1.32	0.00	0.99	2.31	1.00	0.83	3.00	1.16
26	0.00	1.98	0.00	0.99	0.99	2.66	1.33	1.66	0.99
27	3.74	0.83	0.00	0.16	0.00	0.50	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	1.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	0.00	0.00	0.65	0.00	0.00	0.00	0.00	0.00	0.00
34	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00
36	0.33	13.88	1.96	0.99	4.28	3.66	6.33	2.00	3.97
37	0.00	5.62	2.62	3.29	5.60	2.33	3.33	2.00	5.30
38	0.65	20.17	1.64	19.11	25.70	23.29	5.33	57.90	43.38
39	4.55	0.99	5.24	0.33	0.33	0.67	0.00	1.33	0.66
40	2.60	2.64	0.33	1.32	2.31	2.00	4.67	1.66	0.99
41	0.98	5.62	6.87	8.57	5.27	7.65	5.67	1.33	1.99
42	1.95	5.29	7.20	4.28	5.60	4.33	4.00	7.65	3.31
43	3.58	0.66	1.96	1.65	1.98	0.33	0.33	1.66	1.99
44	0.65	3.97	20.62	23.39	20.76	17.64	27.00	3.99	7.28
45	4.23	1.98	7.86	1.98	5.60	2.66	0.00	3.00	3.64
46	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00
47	0.00	0.66	0.98	0.66	0.00	0.00	0.00	0.00	0.00
48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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2	1.63	3.31	1.64	1.65	0.00	0.67	0.33	0.33	1.66
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6									
7	0.00	0.17	0.65	0.33	0.00	0.00	0.17	0.17	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00
16	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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For Review Only

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2	51.27	51.47	51.67	51.94	52.1	52.28	52.48	52.65	53.12
3	7665.493	7682.846	7700.199	7723.626	7737.509	7753.126	7770.48	7785.23	7826.01
4	0.00	1.33	0.00	0.66	1.66	0.00	0.33	0.67	0.00
5	0.50	0.00	0.00	0.83	0.33	0.99	1.33	0.33	0.65
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	2.66	1.00	0.00	1.82	2.49	1.98	0.83	0.00	1.80
8	0.33	2.33	0.65	0.99	2.49	0.99	0.66	0.33	0.00
9	2.66	0.83	1.31	0.66	0.83	0.49	2.66	4.17	3.76
10	0.83	2.00	1.63	3.31	3.98	6.59	1.99	6.17	1.31
11	1.33	1.17	0.00	0.33	1.49	0.33	0.66	0.00	0.00
12	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.33	0.00	0.17	0.33	0.00	0.00	0.00	0.00
14	1.00	1.83	0.33	0.17	0.00	0.00	0.33	0.00	0.00
15	1.33	0.00	0.00	0.00	0.66	0.66	0.00	0.00	0.00
16	0.00	0.00	0.65	0.99	0.17	0.00	0.00	0.00	0.00
17	0.33	0.33	0.33	0.50	0.33	0.33	0.00	0.00	0.33
18	4.83	3.00	2.12	1.32	8.79	5.60	10.13	1.17	12.93
19	0.00	0.00	0.00	0.99	0.66	1.32	1.00	0.67	0.00
20	0.00	0.00	0.00	0.00	0.33	0.16	0.00	0.00	0.00
21	0.00	0.33	0.33	0.00	0.00	0.00	0.00	0.00	0.00
22	2.66	0.00	0.00	1.32	1.99	0.99	0.66	0.33	0.00
23	0.00	0.00	3.27	0.00	0.00	0.00	0.00	4.50	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.66	0.33	0.00
25	1.66	2.33	4.25	2.32	2.65	4.12	1.50	2.33	2.29
26	3.66	1.00	0.00	0.66	2.99	5.77	3.99	0.00	0.33
27	0.00	0.67	0.00	0.00	0.00	0.00	0.00	0.17	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.66	2.31	1.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	0.00	0.00	0.00	0.00	0.66	2.31	1.00	0.00	0.00
35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37	0.00	0.00	1.31	0.00	0.00	0.00	0.00	0.33	0.00
38	0.33	0.00	0.33	0.00	0.00	0.66	0.00	0.00	0.00
39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	1.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00
44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	2.33	2.33	0.33	2.98	1.00	3.29	2.33	2.67	4.91
47	3.99	4.00	8.17	0.66	0.66	0.66	0.66	10.00	2.62
48	39.93	34.33	40.52	47.68	26.87	32.29	27.57	26.67	48.77
49	0.33	3.33	0.00	2.65	1.00	0.66	0.00	0.33	0.33
50	0.67	2.00	2.61	0.33	0.00	2.64	1.66	0.00	0.00
51	2.33	2.33	3.27	1.66	1.99	1.32	3.99	5.67	2.29
52	1.00	5.00	1.96	4.30	9.29	2.97	4.98	4.00	1.96
53	2.66	1.67	2.94	3.64	3.98	1.32	0.33	0.00	1.64
54	9.32	5.67	4.58	7.95	7.96	9.56	21.26	7.33	4.58
55	4.33	3.67	3.59	4.97	3.32	1.65	0.66	1.33	1.96
56	0.00	0.33	0.33	0.00	0.00	0.00	0.00	0.00	0.00
57	0.00	0.33	0.33	0.00	0.00	0.00	0.00	0.00	0.00
58	0.00	0.33	0.33	0.00	0.00	0.00	0.00	0.00	0.00
59	0.00	0.33	0.33	0.00	0.00	0.00	0.00	0.00	0.00
60	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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2	0.33	1.67	2.61	0.66	1.33	1.32	1.99	2.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.33	0.00	0.00	0.49	0.00	2.17	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.67	0.00	0.00	0.00	0.00	0.00	1.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00
16	0.00	1.33	0.00	0.00	0.00	0.66	0.00	0.00	0.00
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2		DAZ 1 v 2	DAZ 2 v 3	DAZ 3 v 4	DAZ 4 v 5	DAZ 5 v 6
3	R	+	+	-	+	-
4	BP	+	+	-	+	-
5	CRS	+	-	-	+	-
6	ADA	-	+	+	-	-
7	F	+	+	-	+	-
8	BF	-	+	-	-	-
9	B	+	+	+	+	-
10	BM	+	-	-	+	-
11	M	+	+	+	+	+
12	SI	-	+	-	-	-
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+ is significant; - is not

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